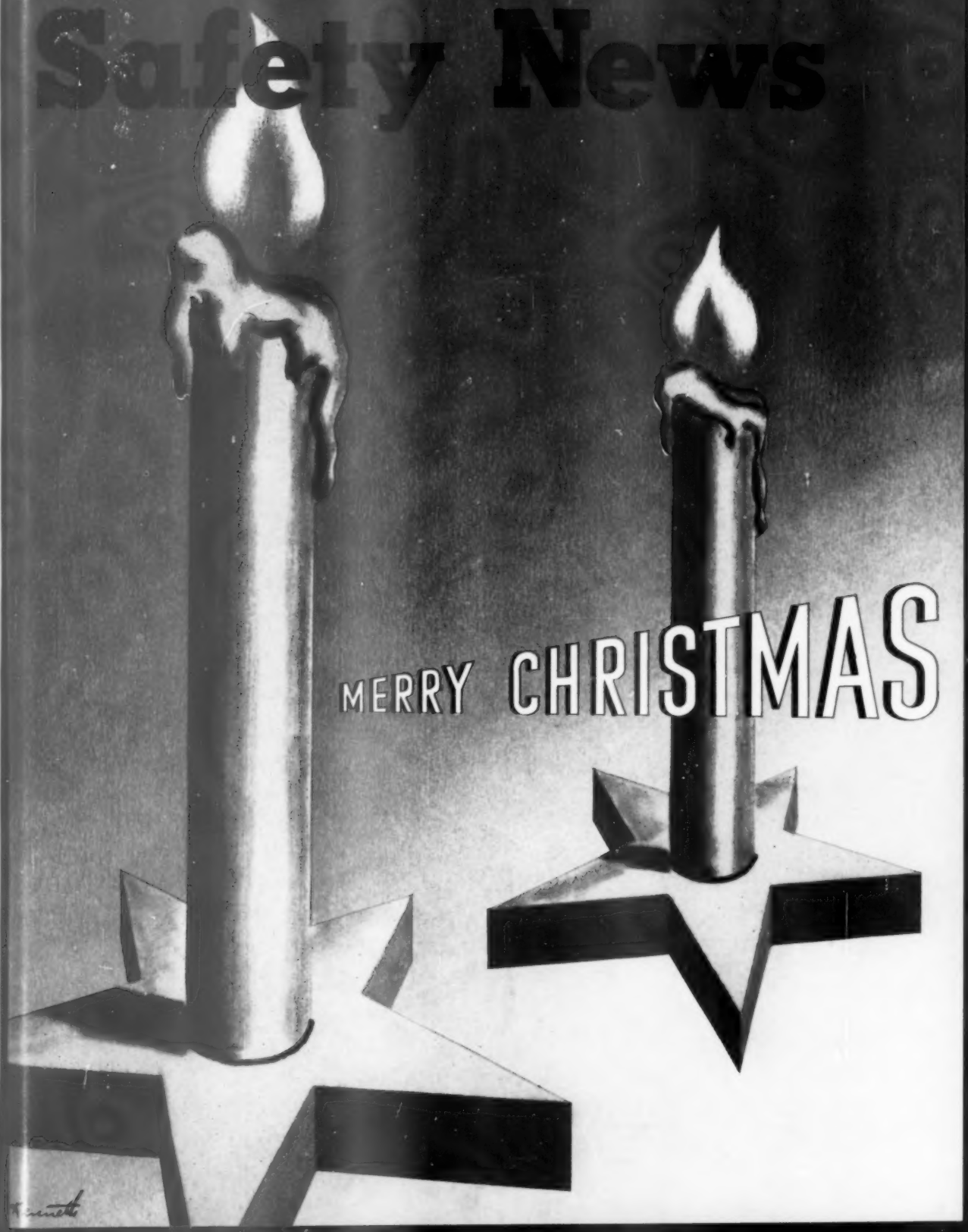
DECEMBER 1950

National Safety News



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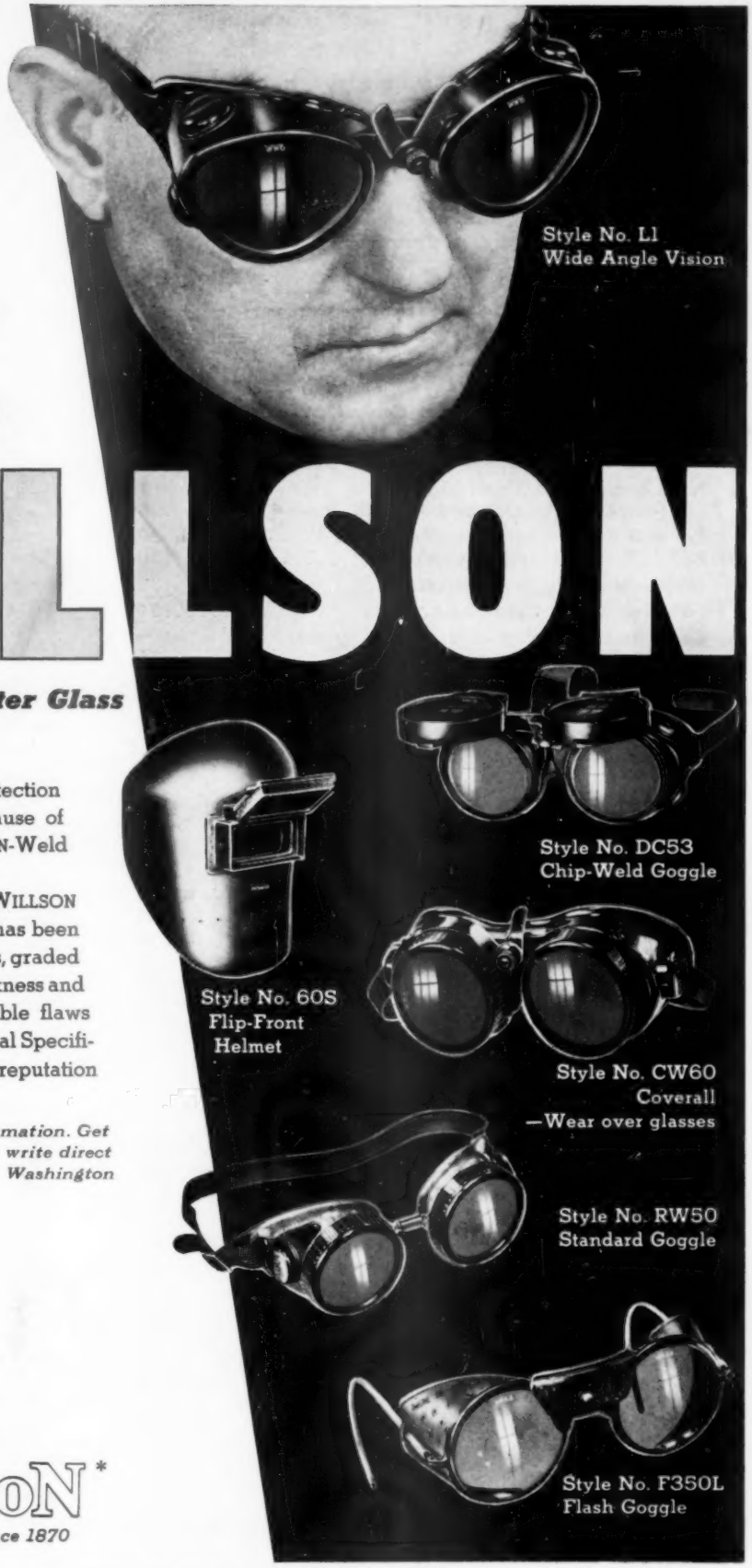

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NATIONAL SAFETY NEWS

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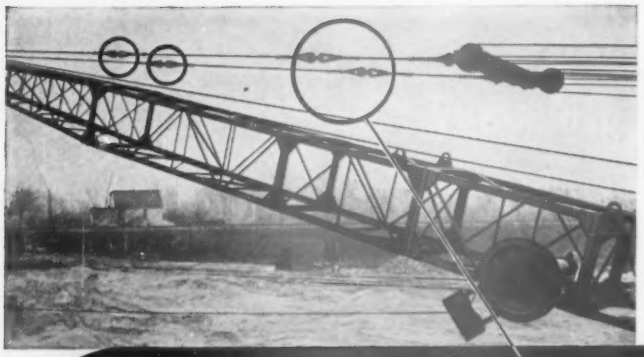
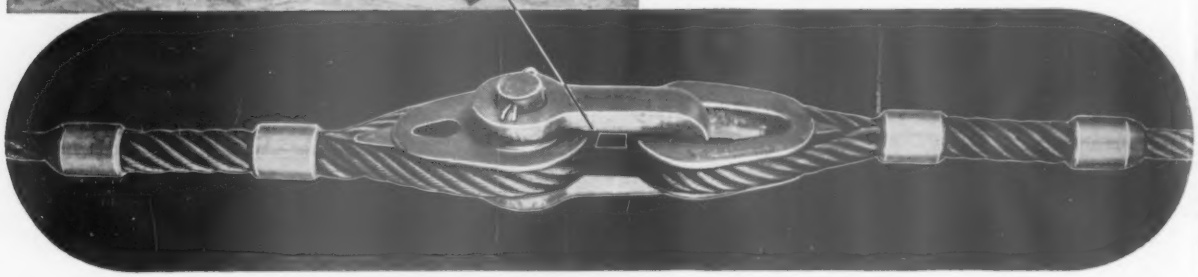


DUALOC BOOM CABLES



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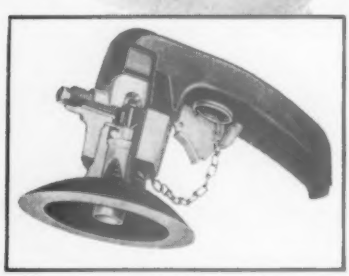

New valve trigger has automatic safety. If disc ruptures, trigger pushes downward to show words "Replace Disc."

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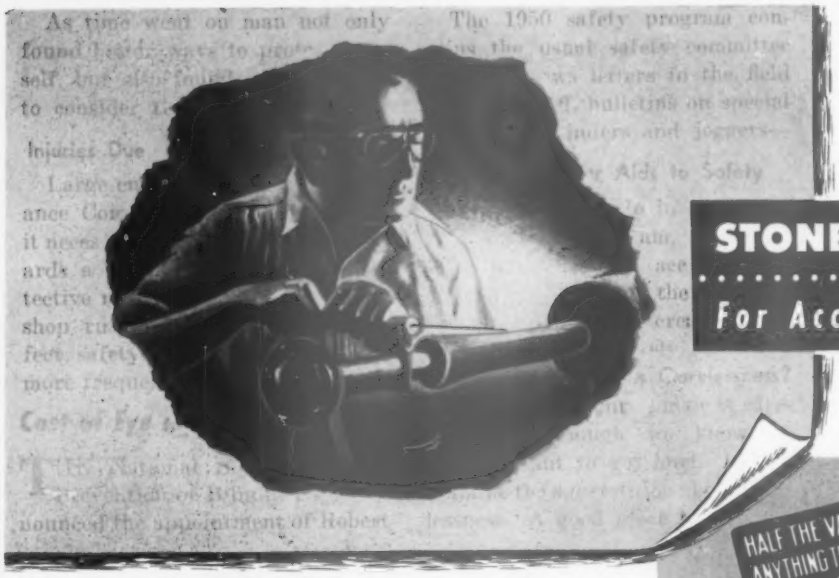

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At last! A tough, brilliant floor finish that positively reduces slip hazards*

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In addition to *extra safety*—new Johnson's Shur-tred gives you *all* the qualities for which Johnson's No-Buff Floor Finishes are famous: brightest shine . . . toughness . . . water-resistance . . . quick drying . . . easy application. It is *not* tacky, *not* gritty.

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BAUSCH & LOMB *Safety Eyewear*

"Where are you?" asked a breathless little voice

The little boy who talked to Santa Claus

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Billy was four and a half and as full of questions as a quiz program.

But the telephone man didn't mind. He had a little boy of his own and he knew how it was. Patiently he kept explaining every step as he installed the new telephone in Billy's home.

Finally the job was done and he was about to make the usual call to the Central Office to be sure everything was in perfect working order.

But it wasn't the usual call this time. For it happened to be just a little while before Christmas and you know how excited a little boy of four and a half can get about then. And the installer and his co-workers at the Central Office had something specially arranged for just such a situation.

"Would you like to talk to Santa Claus?" he asked. "Right now — over this telephone?"

"Ooooh! Yesss!" said Billy.

So the telephone man got the Central Office and asked Santa Claus to come to the telephone if he wasn't too busy making toys. Said there was a nice little boy named Billy who wanted to talk to him. By now Billy's eyes were big as saucers, but quick as a flash he had the receiver to his ear. Next thing he knew, he heard a voice saying —

"Hello, Billy. This is Santa Claus."

"Where . . . are . . . you?" asked a breathless little voice.

"The North Pole," said Santa.

"Is it cold up there?" Etc. Etc. Etc.

They talked for several minutes and there wasn't a happier lad in all the land than Billy. You can just bet those telephone people were pretty happy about it too.

THIS IS A TRUE STORY *of how a telephone installer spread gladness among little boys and girls wherever he found them in the homes he visited during the pre-Christmas period. . . . Nobody asked him and his Santa Claus conspirators in the Central Office to do it. It was their own idea—and just another example of the friendly spirit of telephone people. . . . Wherever they are, and whatever they do, they aim to serve you not only with efficiency but with courtesy and consideration as well.*

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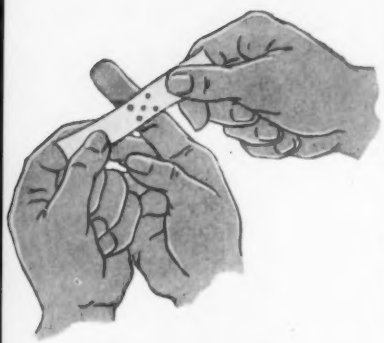

Do not neglect wounds, however small; even scratches and small cuts may become infected if they are not promptly and properly treated.

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Lower costs

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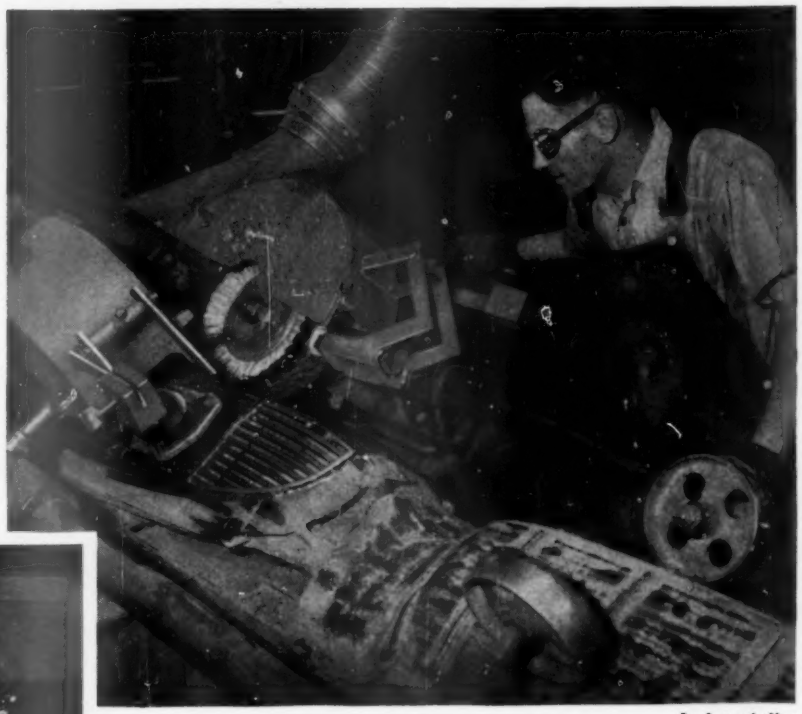
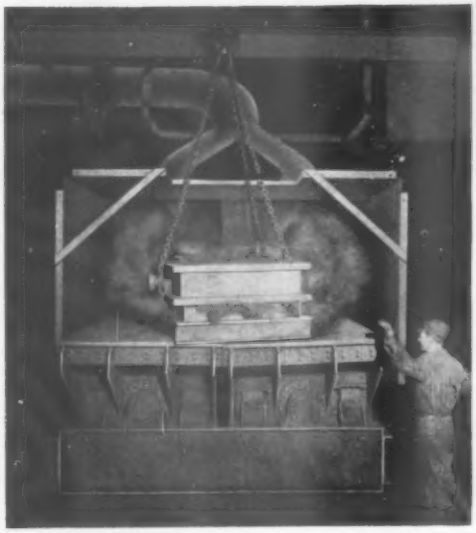


In dry grinding



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This experience covers a wide variety of applications. Sturtevant-engineered systems, now in operation across the country, control dusts which are injurious to workers' health and comfort, create fire or explosion hazards, increase maintenance costs, or make "housekeeping" difficult. Sturtevant engineers will cooperate with you in designing an exhausting system that meets your individual needs.

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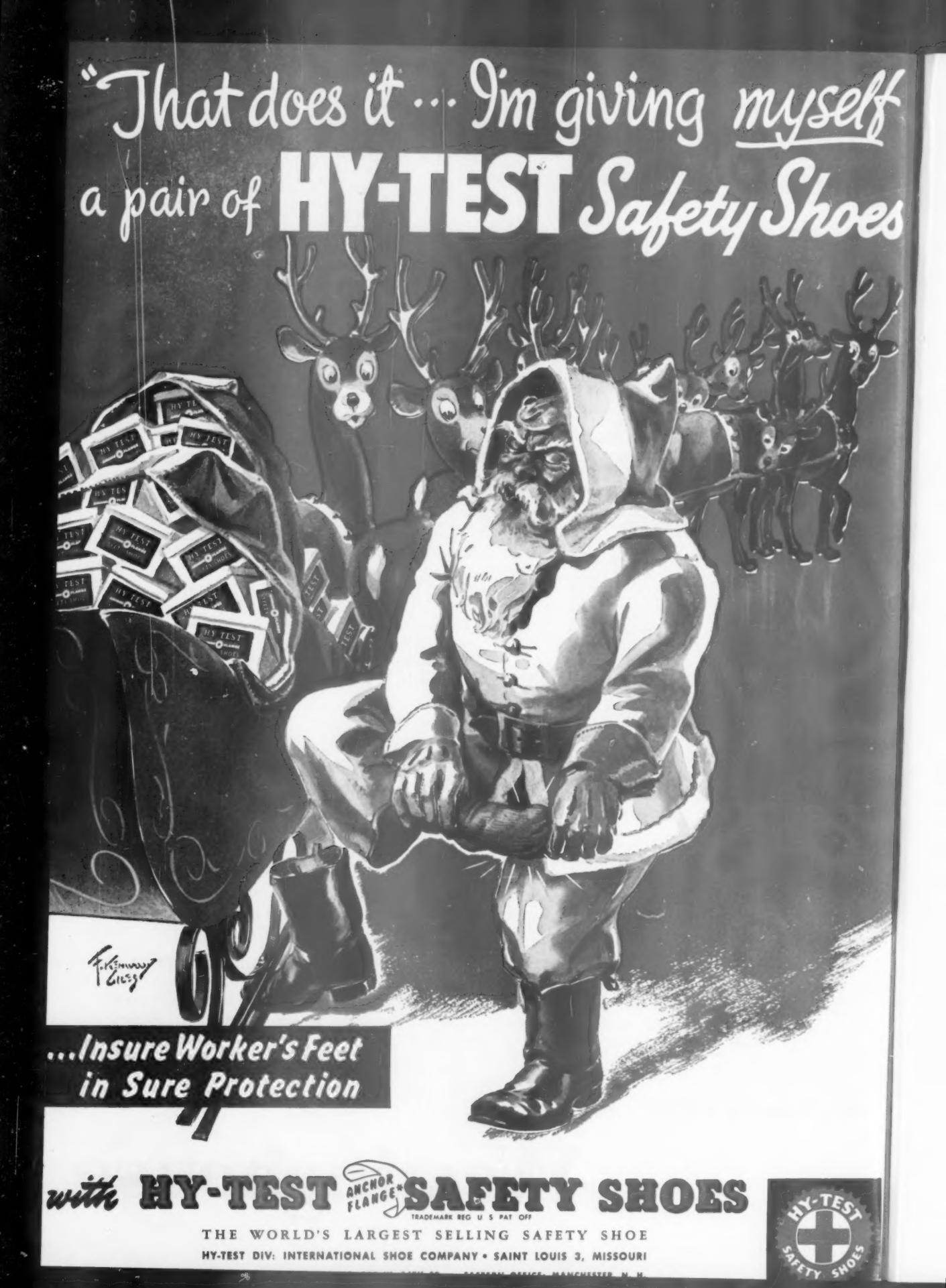
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SAFETY NEWS

DECEMBER 1950

Rich and Deadly

DECEMBER is the richest month of the year in the human things of true value.

It is also, in most years, the deadliest month in the calendar.

December is the month of gaiety: the kids' eyes sparkling as they tear open the package wrappings; the young folks off on a round of parties; even the offices and factories, in many cases, becoming the scenes of festivities.

December is the great month of family life. The youngsters are home from college. Family groups pile into cars and drive out to grandma's. The little-used pianos in many parlors become the centers for singing groups. And though the doors are open for the widest hospitality, the ritual of Christmas at home is peculiarly an intimate family affair.

Finally, December is the month of deep idealism. The churches are crowded. The songs that are sung and the stories that are read in countless homes have a uniquely religious character. And, no matter how much crude commercial exploitation has been built around it, December is still the great month of giving—to the child, the neighbor, the deserving poor, and even the beggar on the street.

Yet, as a nation, we seem to be doing our level worst to destroy this pattern of joy and idealism. With monotonous, tragic regularity, we produce a bitter crop of pedestrian traffic deaths in December. When the evening rush hour coincides with the hour of early darkness, when the streets are crowded with shoppers, we have a combination which is almost uniquely dangerous.

Add to the pedestrian deaths the toll of other traffic accidents, some of them resulting from over-enthusiastic participation in the liquid refreshments of our holiday merry-making; and also the blasting damage and danger of fire as we pack our homes with combustible decorations and wrappings, and with ignition equipment like candles and sloppy temporary wiring jobs; add the menace of iced steps and walks; and add finally the normal run of month-in-month-out accidents on and off the job.

The result is widespread tragedy—and it will always be associated with our Christmas season *until* we, as a people, will that it shall not happen.

There is still something that *you*, as an individual or as the representative of a corporation or organization, can do this year to make Christmas happier.

In many communities, safety organizations are already far along in their planned program of activities to reduce the December death toll. I submit that you have a job to do in such a program. In your company, too, you have a real stake and a real opportunity in Christmas safety. You can cooperate with the community campaign by keeping your employees informed, by seeing that they receive advice and encouragement in making their personal holidays accident-free. You also have a responsibility for the whole community, and anything you can contribute in terms of financial aid or the contribution of facilities and talent to the program will pay great dividends in many ways.

If your community has not organized a Christmas safety campaign, you can sparkplug such a move. In your plant, in the community organizations to which you belong, in your own home, you have an opportunity for service that is thoroughly in keeping with the best of the Christmas tradition.

Ned H. Dearborn

THE STATE LABOR DEPARTMENT—
PARTNER or POLICEMAN?

By MARION E. MARTIN

STATE LABOR DEPARTMENTS, in most instances, are the red-headed step-children of the safety movement. On the one hand we have private organizations which have been working in the field for years. Only in exceptional cases do they bring their state labor departments into the picture or work with them. On the other hand, we have the U. S. Department of Labor actively promoting accident prevention programs. Until recently, they too have operated as though state labor departments were the little men who were not there.

Frequently we are in the middle of the problems—between labor and management, between management and insurance companies, between safety engineers and plant foremen, between our own inspectors and the plant owners, and last but not least, between the Federal Department of Labor and the plant management. Therefore, a discussion of our problems may help in understanding the services we can render, the limitations under which we operate, and the attitudes of a department that is given not only the responsibility for establishing safe workplaces, but also police powers to prosecute when a plant manager refuses to provide the required safeguards.

State labor departments, or other safety commissions, are the only agencies vested by law with this police power. They are, then, or should be, a strong arm in the safety movement. With rare exceptions, that is not the case.

The reasons, I think, can be broken down as follows:

1. Lack of moral support.

2. Lack of finances.

These two combined bring about a deficiency in state labor departments whereby only a few can employ trained personnel that will command the respect of employer and employee alike.

3. Lack of aggressiveness.

This can be accounted for in two ways, and it is no reflection on the individual commissioners.

First and foremost is the fact that the average state labor department is a catch-all for an infinite variety of responsibilities, all important to our economic and social well-being.

Apart from safety . . . laws usually administered by the state labor commissioner are: women's and minors' legislation, minimum wage, industrial homework, collection of wages, and labor management relations. In addition, many have the administration of unemployment and workmen's compensation laws. To do any of these efficiently demands a concentration of effort and a specialization that limited personnel rarely allows.

The second reason is that those engaged in safety work frequently are a "closed corporation" who make it very difficult for a commissioner to work with them or to profit by their activities.

4. Appointment of commissioner and/or the inspectors too often are purely political.

The natural result is that the appointees may have no knowledge, no desire to learn, and they neither have nor deserve the respect of the employers and others with whom they deal. This in turn is partly the fault of management for not taking a more constructive interest in good laws and the appointment of competent people. By ignoring such appointments they hope that government will leave them alone.

THE AUTHOR: *Miss Marion E. Martin, Commissioner, Department of Labor and Industry, State of Maine, has for many years been active in the public life of the State. For several years she was a member of the State House of Representatives and subsequently senator. At the 38th National Safety Congress she was elected to the National Safety Council's Board of Directors. This article has been condensed slightly from an address before the Annual Council Meeting at the Congress.*

Our social thinking demands safe working conditions and some government agency will always be held responsible for them. Police power isn't enough; the state labor department needs a working partnership with industry to formulate fair rules and secure willing compliance with them

I have spelled out a dreary, not to say startling, picture. It is not, however, too discouraging, nor is it insoluble. The fact that the National Safety Council has invited me to speak on the subject is evidence that the patterns are being placed for all of us to follow, and follow we must, cooperate we must. If we do not, there will be as strict regimentation in the safety field as there is now in the wage and hour.

You are all aware of the growing insistence that the Federal Government move into the safety inspection field. We see it as the law of the land as far as the Walsh-Healy contracts are concerned. We see it in the Burke Bill, H.R.4997, a hearing on which was held by the Committee on Labor and Education in August. This bill would set up a Bureau of Accident Prevention in the U. S. Department of Labor with code-making authority, inspection and enforcement provisions to be applied to all industries whose accident rate was higher than the national average.

As far as these measures are concerned, I believe unequivocally that the cause of accident prevention is furthered by placing the responsibility as close to the individual employer as possible.

In fact, the ideal would be to have every employer so safety conscious and doing such a good job in accident prevention that no governmental bureau, local, state or national, would be brought into the field.

Since that is not the case and the present climate of social thinking will not allow intolerable working conditions to be maintained, government is brought into the field. The agency closest to the plant is the State. That is the ideal agency in which to vest authority and responsibility for accident prevention.

We must bear in mind, however, that there are some states which have no industrial accident prevention authority vested in their State labor departments and some of those officers who have the authority, do not always live up to it. We must assist these states to set up safety inspection powers. We must breathe the fire of life into established agencies or yield to the Federal Government's moving into the field, even more forcefully than . . . in the past.

Certainly, if we are honestly devoted to accident prevention, we must recognize that nature abhors a vacuum. If we do not do the work ourselves, we should not be dogs in mangers and prevent others from doing it.

Support State Agencies

The solution, therefore, is to build and support our State agencies; to encourage them to fulfill their obligations honestly and impartially.

In fulfilling our obligations, there are two approaches. The title of this article denotes them: "State Labor Department—partner or policeman?"

I know of no State Labor Commissioner who would have any hesitancy in answering that question. He would proclaim in a clear, loud voice, "Partner, of course!" It is our sincere desire to work with management and labor, to bring about a willing compliance.

The State of Connecticut has a new approach to this field. Their industrial safety work is in the hands of two groups of experts—the safety consultants and the safety inspectors.

The safety consultants visit the plants and through their expert advice, convince management *voluntarily* to make the needed corrections. If they find an adamant plant owner, who will not provide safeguards without compulsion, they report it to the Department. Inspectors then follow up. Their recommendations are bulwarked by power of prosecution. Commissioner Egan reports that they have had much greater success and much better acceptance through this procedure than they formerly did when the inspector was consultant, inspector and policeman.

Education First

Unfortunately, most other states are not equipped with sufficient personnel or finances to follow such a program, but they do work out a pattern of education and consultation.

Such safety men are always running the risk of developing psychoses because of the dual aspect of their work. Our own Department, for instance, concentrates first on education. We spell out how, why and wherefore they should institute safety programs in their plants, and install machine guards, and that only by having a day-to-day safety awareness can they hope to reduce the accidents.

Usually we receive splendid cooperation. Occasionally, however, we run into a recalcitrant employer who either is so resentful of government of any level, or he is so hard-pressed by a multitude of duties, or from financial worries, that only by taking out our policeman's stick can we get the minimum of safety requirements established.

This is never satisfactory. You can guard each machine to the hilt, see that the floors are clean and the housekeeping is good

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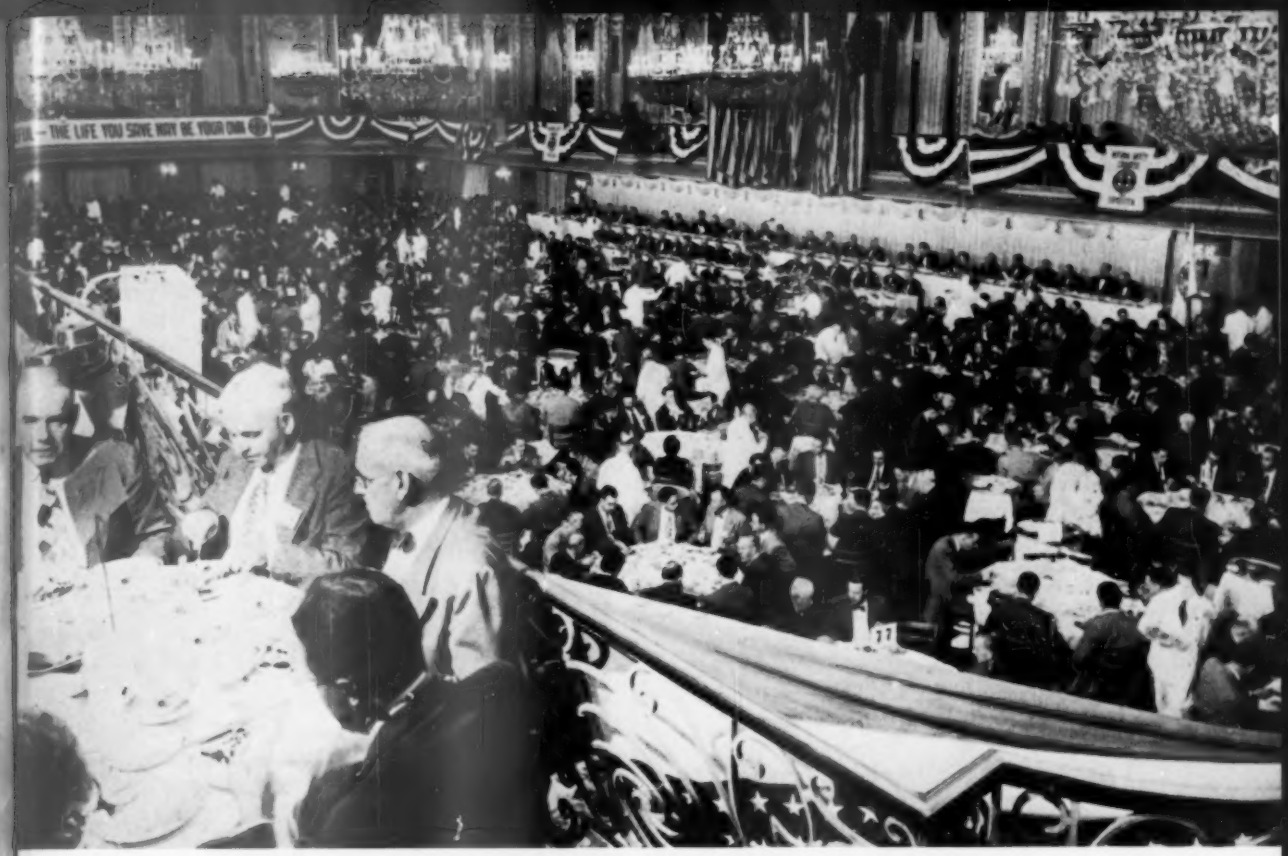

The photographers' dinners grew cold while they circulated through the grand ballroom of The Stevens getting pictures of the Banquet.

SEEN AT THE CONGRESS

By the NSC Staff Photographers

A familiar setting with many new faces as the 38th National Safety Congress opens at The Stevens for the sixteenth time in 23 years. The scene was duplicated on a smaller scale at the Congress, LaSalle and Morrison hotels.

AT THE CONGRESS—*Continued*

SAFETY—for the individual and for the world—was foremost in the minds of 12,000 men and women from all parts of the United States and Canada and from countries overseas who gathered in Chicago during the week of October 16-20 for the 38th National Safety Congress.

In their minds were thoughts of the forces threatening the people who are still free and the new and deadly weapons that might be employed against them. But contemplation of these possible perils did not distract their attention and energy from their immediate task—to check the immediate dangers threatening them and their fellow citizens in their every-day pursuits. There was an understanding of the importance of reducing these accident losses in strengthening the nation to resist aggression.

In more than 150 scheduled meetings throughout the week, delegates studied these many-sided problems, bringing to their solution the combined experiences of individuals and organizations representing the country's major interests.

In addition to the regular sessions many companies and other organizations held private conferences of their representatives to confer on their own special problems and to plan effective use of the delegates' time during the week.

With so many activities carried on at four hotels during the Congress Week, coverage of the events in both words and pictures is inevitably sketchy. On these pages are a few shots from several hundred in the Congress album. They are the work of the Council's staff photographers Cliff Benton, Wally Kenneth and Norval Burch.

At the Banquet, Mayor Martin H. Kennelly extended the city's gracious glad hand to the Congress.

Clifford Davis, Member from Tennessee in the U.S. House of Representatives, introduces the speaker of the evening.

At TV Station WBKB, Mrs. George W. Jaqua, V-P for Women's Activities, is interviewed on the Fun and Features program.

The NSC exhibit at the entrance to The Stevens' Exhibit Hall was popular spot to get information and rest feet.

The Industrial Safety Conference gets a start on the year's program on Sunday before the opening of the Congress.

Wallace B. Phillips (left), of the Royal Society for the Prevention of Accidents, London, and President Ned H. Dearborn, NSC, take part in the "Public Affairs" program on NBC.

For women attending the Congress, one of the week's pleasant events was the reception at the Sheraton Hotel Monday.

The newly-elected Board of Directors holds its first meeting in the Conference Room at the Council's headquarters.

One section of the display featuring the Council's materials and services developed for industrial programs.

In the Congress Hotel's Casino Room, another full-scale exposition, both industrial and public safety, was under way.

Above: Walls must be able to resist shearing effect produced by high winds blowing on intersecting walls. This effect is simulated in the laboratory by applying forces at diagonally opposite corners of the wall.

Left: Spectacular burn-out test conducted by National Bureau of Standards in 1928. Two buildings in downtown Washington scheduled for demolition were filled with combustibles equivalent to those of average office building or store. Contents were set on fire and readings were taken of temperatures reached at various points within the structures.

Bases for Building Codes

By G. N. THOMPSON

Tests conducted at National Bureau of Standards develop data on construction materials and methods

PEOPLE are so accustomed to living and working in buildings that few give thought to the safety of the structure. The business man in his office, the scientist in his laboratory, the housewife in her home—all are able to concentrate on their daily tasks without worrying too much about whether the building will burn down or collapse.

That they are able to do so is a tribute to the skill and integrity of designers and builders, and also to the regulations imposed by society. Such regulations are usually grouped under the designation, "building codes."

Two thousand municipal ordinances and a few State and county codes create the pattern of building codes in this country. The codes are thus largely local in character and show considerable lack of uniformity. This may be attributed in part to climatic and other local conditions, but the essential technical differences appear to be due to different basic information and to varying judgment in the application of this information.

Over a period of years, variations in code requirements have been reduced appreciably, a process in which the technical information available from the National Bureau of Standards has played an essential part. The process is continuing and prospects for greater uniformity are becoming better.

If a building code is to set forth, as it customarily does, the allowable stresses that may be used in design for a particular material, some means of identify-

THE AUTHOR: *G. N. Thompson is with the National Bureau of Standards, Washington, D. C. This article has been condensed from the Bureau's* Building Research Summary Report 73.

Durability of materials, as well as material strength, must be considered. Masonry walls are exposed to weather to determine resistance of brick, tile, stucco, mortar and other masonry materials over a period of years.

ing the quality of that material must be provided. This requires an activity not involved in the code-writing process, except in utilizing the fruits of what has already been done. The specifications of the American Society for Testing Materials and of the Federal Specifications Board, prepared by committees in which members of the Bureau staff participate, are useful in this connection.

Standard methods of testing are necessary in establishing specifications for materials. Such methods of testing have been extended from individual materials to structural assemblies, so that it is now possible to judge the merits of members composed of various materials.

Accumulation of data on strength of materials through laboratory tests is but one step in the development of code requirements. Judgment also plays a large part in the ultimate determination of how these materials may be used safely in actual construction. This is necessary since there are many uncertainties in connection with the loads and forces to which a building may be subjected during its lifetime, such as quality of workmanship in the field and other conditions arising in actual use after completion. To arrive at permissible values, expert judgment is needed; and since experts frequently have different ideas, the composite judgment of a number of them is preferable. These ends are best accomplished through code formulating committees.

Code Formulation

Just as there is machinery available for developing standards of quality, so are there means in existence for bringing about standards of application. Among these are committees of the American Standards Association, which study available data and issue carefully considered standards.

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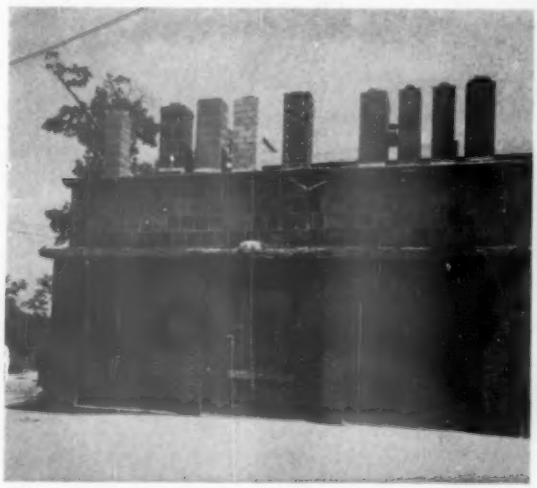
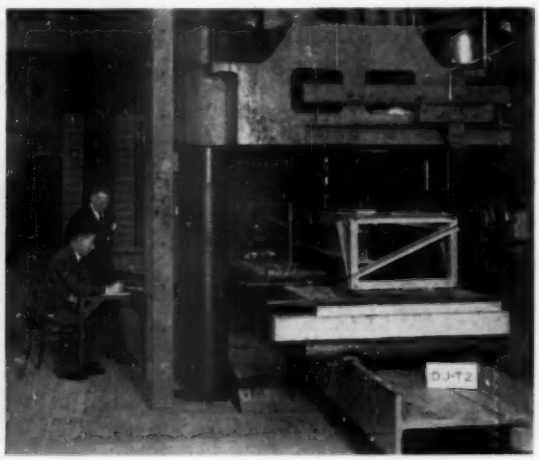


Because of frequent fires attributed to defective chimneys, codes emphasize proper chimney construction. Studies made by National Bureau of Standards at the request of the Housing and Home Finance Agency provide data on design and on separation from combustible materials.



Strength characteristics of many types of building materials, as well as different structural elements, have been studied in this ten-million-pound compression machine. The test shown here is on a prefabricated roof panel which must be built to carry snow and wind loads.

Facts and Fancies

About Ladders

By L. J. MARKWARDT and ALAN D. FREAS

WOOD ladders are familiar to everyone but there are many misunderstandings concerning their design and use. Moreover, common and serviceable as ladders are, there is an ever-present possibility that careless use may result in a serious accident, or misconceptions about their strength may lead to overloads that can cause failure.

Let us assume that you have purchased a popular size, 28-foot, two-piece extension ladder. The wood will be bright and clean and, if well manufactured and carefully inspected, the ladder will give many years of service with proper care and use. The chances are that this ladder has been made in accordance with the requirements of the American Standard Safety Code for Wood Ladders, and that the dimensions will be close to the minimum specified for this size of ladder. The side rails for this 28-foot ladder, if made of Sitka spruce or West Coast hemlock, measure not less than $1\frac{5}{16}$ by $2\frac{3}{4}$ inches in cross section, but if of a wood such as Douglas-fir, which is slightly stronger and heavier, the cross section may be a little smaller.

Many species of wood are suitable for ladders, but the softwoods are commonly used for side rails. These woods include Sitka spruce, noble fir, western hemlock, and Douglas-fir. The rungs of single and of extension ladders are characteristically of a denser species, usually hickory, ash, or oak, to provide adequate resistance to wear.

It is the manufacturer's responsibility to see that the wood used is properly seasoned; that rungs and side rails of good quality are selected; that defects and characteristics that affect the strength are limited in accordance with the code; and that the ladder is well manufactured. The most important defects are cross grain and compression failures.

Since wood lends itself satisfactorily to visual inspection, reliable manufacture and inspection will insure a ladder of good quality and strength that affords safety with proper use. Usually ladder side rails are free from knots, although in reality a knot at the middle of the width of a side rail has very little effect on the strength; in fact less effect than the hole bored for the rung when the knot is of the same diameter.

Length of Extension Ladders. In purchasing ladders it must be remembered that an extension ladder cannot be used to the full length of the individual sections. Since the size of extension ladders is designated by the sum of the lengths of the sections, it will be found that the 36-foot ladder has, according to code requirements, an overlap of 3 feet when fully extended, and consequently has a net maximum usable length of 33 feet. If a two section ladder of 36-foot usable length is required,

THE AUTHORS: *L. J. Markwardt is Assistant Director and Alan D. Freas is Engineer, Forest Products Laboratory, Forest Service, U. S. Department of Agriculture. The laboratory is maintained at Madison, Wis., in cooperation with the University of Wisconsin.*

To find tiny but dangerous compression failures caused by "proof-testing" ladders, Dr. M. Y. Pillow of Forest Products Laboratories uses oblique lighting and wetting wood with carbon tetrachloride.

two 20-foot sections comprising what is designated as a 40-foot ladder must be purchased.

Painting Ladders

The stepladder as well as the single and extension ladders is covered by the safety code. The following discussion of painting, testing, care, maintenance, and safety are equally as applicable to the stepladder as to the other types. In fact, all ladder equipment including scaffold planks, swing stages, trestles, etc., should receive the same consideration.

New ladders, except certain specialty items, are sold in an unpainted or unfinished condition. In this condition, the ladder parts can readily be checked for cross grain, compression failures, and quality of wood. A transparent finish such as varnish, shellac, or a clear preservative is recommended. With such a finish, or unpainted, the ladder can be inspected from time to time. Some State safety codes require transparent finishes or that ladders be left unpainted for these reasons.

On the other hand, when adequate initial inspection has been made, some companies find it desirable to paint ladders and maintain them in a painted condition. Painting may increase serviceability and reduce splintering, as well as improve appearance. It is only to be recommended, however, after adequate initial inspection has been made by competent organizations that have thorough inspection and maintenance programs. Painting itself does not increase durability or resistance to decay.

Don't Test That Ladder

It may be noted that the wood ladder in this inspection procedure has not been given any test loading. There is no simple satisfactory method of proof testing wood for strength, and any test loading much beyond the design load may result in serious damage to the side rails. Sometimes a ladder is tested by supporting it horizontally on horses at the ends and having a man jump on it at the center.

Such a test method should never be used because it subjects a ladder to more severe loads than it was ever intended or designed to carry and because, even if it does not fail, it may sustain injuries in the form of compression failures that may be the source of sudden failure and serious accident in future use. Hence, don't test that ladder, but rather give it a critical visual inspection to insure that it meets all needed requirements.

Compression failures in spruce lumber visible as white lines across the grain.

Strength and Design

Single or extension ladders are not designed to carry loads when stretched out full length horizontally over end supports. This is the function of scaffold ladders or scaffold planks. In ladder design, the strength is calculated on the assumption the ladder will be used with the base moved out from the wall against which the upper end rests by a distance equal to one-fourth the length of the ladder. If the base is out farther, the loading condition is more severe than that for which the ladder was designed. If the base is too near the wall, the ladder becomes less safe because it is more unstable.

Wood ladders meeting the minimum requirements of the *American Standard Safety Code for Wood Ladders* are designed to carry safely an assumed load of 200 pounds, when the load is at the center of the rungs midway between the two side rails, and when the foot of the ladder is moved out of the perpendicular by one-quarter of its length. These design conditions indicate the limitations that must be kept in mind in the use of a ladder.

It should be pointed out also, in connection with the design procedure mentioned, that for the minimum quality of material acceptable for a ladder no large factor of safety exists that will permit gross misuse of overloading by a factor of three or four. The design assumptions mean that, when the full weight of a 200-pound man is carried essentially by one side rail, the rail is subjected to twice the design load.

Likewise, if a fully extended ladder is improperly used so that the base is one-half the ladder length from the wall as against one-fourth the length, the stresses will be twice as high and the ladder is subjected to twice the design load. It is obvious also that ladders should never be used horizontally when supported full length near the ends, as a 200-pound load when in this position subjects a ladder to four times the design load.

The design limitations also suggest caution in the use of ladders with ladder jacks and scaffold planks. The greater working space provided by the scaffold plank as compared to the ladder alone may invite the imposition of loads well beyond what the ladder is expected to carry. Care must be exercised to see that the total working load of men and materials does not overload one or both of the supporting ladders, particularly if the majority of the load is near one end of the plank.

These considerations are the responsibility of the user, and it is important that he know the conditions of use for which the ladder is designed.

Care should be used also in the handling of ladders to see that they are not unnecessarily dropped or allowed to fall. Rough handling in this manner may produce cross

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Cathode Ray Tubes

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425 North Michigan Ave., Chicago 11

1. Although this data sheet is based largely on the experience of a representative group of manufacturers, its discussion of cathode ray tube hazards and accident prevention will likewise be of interest to engineering students, service men, dealers in equipment, and laboratory technicians.

Description

2. The cathode ray tube is a vacuum receiving tube which works on the same principle as other receiving tubes, except that it receives and releases the signal in terms of light instead of sound.

3. While generally referred to as "cathode ray," this type of tube is often described as a "picture tube," "Kinescope," or "television tube."

4. The television picture is sketched by a fast-moving electronic beam on a flourescent screen which has been chemically settled onto the inner face of the tube. For maximum operational efficiency, the tube must have an extremely high vacuum.

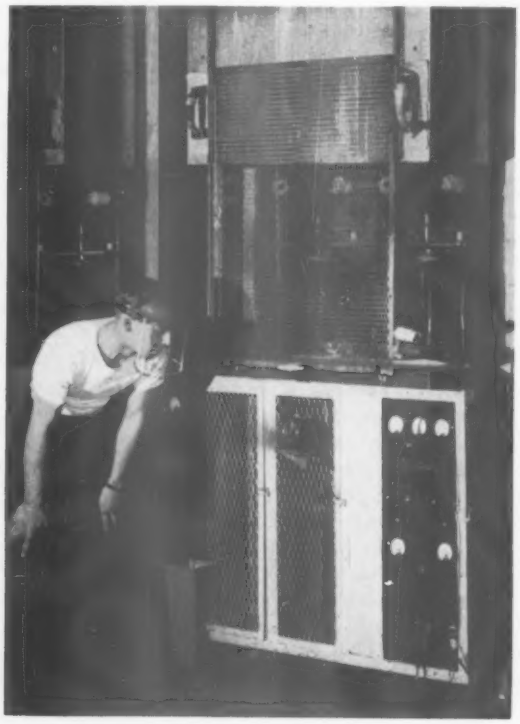
5. The cathode ray tube is manufactured in various sizes, the face of the tube varying from 1 inch to 21 inches or more in diameter, approximately. The smaller cathode ray tubes are used for television projection, oscilloscope, and certain types of electronic equipment such as radar. The larger tubes are, of course, television set equipment.

Construction

6. The cathode ray tube is either entirely of glass or of metal

Figure 1. Tubes before assembly and exhausting.

Figure 2. Trolley type stationary exhaust unit. As the hood is raised, the mesh screen protects the operator from possible breakage. A face shield is worn as added protection.



and glass (known as a metal tube). (Figure 1.)

7. The tube is funnel shaped, with sides tapering sharply from the face to the narrow and extended neck. Tubes are now being designed in two shapes, round and rectangular. The picture viewed is rectangular, and the outer portion of round tubes may be masked when this type is placed in a television receiver. The rectangular-shaped tube is designed as a space saver. It requires a smaller cabinet when the larger screens are used in television sets.

8. Tubes are designed to withstand a high vacuum and ordinary usage. The face is heavy thick glass, the side is a thinner glass, and the neck is of lighter construction and is the weakest point.

9. The metal tube has a glass face which is bonded to the metal side. This type of tube offers less chance of breakage than do glass tubes.

10. The inner surface of the tube is coated with a fluorescent material which serves as the screen against which the picture is received and viewed.

11. The "gun" placed inside the tube neck is an electronic assembly, which generates the electronic beam, controls its intensity in accordance with the received light signal, and directs it to the screen.

12. The tube base is placed on the end of the neck and protects the sealed tip which is formed after a high vacuum has been drawn internally by exhausting the tube. The base also contains terminals for leads at various voltages (except anode) which are fed to the gun assembly inside.

13. The neck is then placed between the forked coils of a high frequency furnace which bombards the gun assembly, heating it to remove any gases which may have formed on the metal.

14. The manufacture of cathode ray tubes involves the usual industrial exposure to accident, especially from broken glass (ordinary breakage), flying glass caused by tube implosion, electric shock, acid and acid fumes, and from solvents.

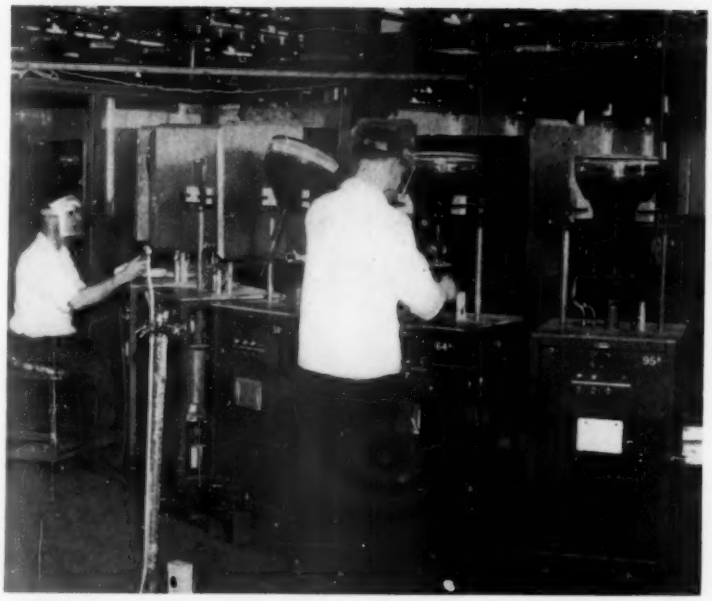


Figure 3. Inline exhaust machine loading tubes for exhausting. Sealing base of tube after exhausting. Employees wear full face and eye protection.

Tube Exhausting

15. The cathode ray tube must have an extremely high vacuum. This vacuum is obtained in the exhausting operation which uses special equipment, such as the trolley exhaust and the inline exhaust.

16. To exhaust a tube fully, internal air must be withdrawn by means of vacuum pumps, while the exterior of the tube is heated to a temperature greater than 400 degrees C. The interior of the tube is heated by the tube filament to expel the air and gases completely.

17. *Trolley* (manual) exhaust equipment (Figure 2) consists of a rack on which the tube is placed and an electrically or gas heated oven which is drawn over the tube to apply heat to the exterior. Because of the high temperature attained, after a tube has been exhausted it must be cooled gradually until it reaches room temperature. Gradient temperature controls are used to prevent sudden changes in temperature which would cause a tube implosion during the process of exhausting.

18. *Inline* (automatic) exhaust equipment (Figure 3) is a large oven completely mechanized, providing controlled heat, vacuum pumping, and gradual cooling within the oven itself. The tubes are placed on a series of trolley exhaust units, and connections are made so that vacuum pumping and filament heating will be done automatically. The unit is drawn into the oven on a conveyor, where the same operations are performed as on the manually operated exhaust equipment. The tubes then pass through a gradually cooled area until they reach the outside.

19. While tubes are being exhausted, precautions are necessary to prevent quick cooling, sudden drafts and subsequent implosions. These implosions are caused either by structural weaknesses in the glass, such as scratches, nicks, abrasions or ruptures on the glass surface usually attributable to improper and careless handling, or

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Ball Mill Is Effectively Guarded

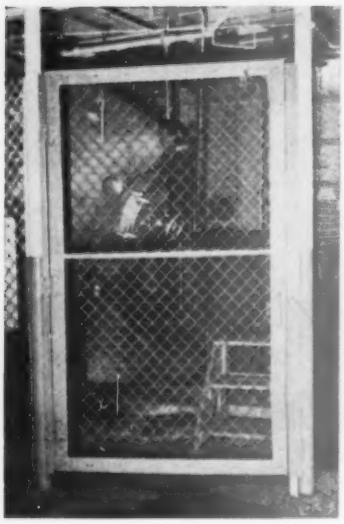

Figure 1

Figure 2

Figure 3

AN interlocking system that would make it physically impossible to start a ball mill while an employee was in it or under it was the aim of the Tennessee Eastman Corporation, Kingsport, Tenn., in designing the installation shown in the accompanying illustrations. Some engineers might think the precautions more thorough than necessary.

The photos show the various steps necessary to get into the enclosure. Figure 1 shows the gate. Two keys are required to open the lock. The bottom key, which actually unlocks the gate, cannot be turned until the top key is turned. The top key also operates the lock on the breaker switch (Figure 2).

The following steps must be taken to enter the enclosure:

1. Push "stop" button (Figure 2).
2. Throw breaker (Figure 3). This allows key to be removed.
3. Remove key from breaker box.
4. Insert key just removed from breaker box into top keyhole on gate. (Figure 4).
5. Turn top key.
6. Turn bottom key. This key cannot be turned until top key is turned.
7. Place bottom key in pocket, open gate and enter enclosure. (Figure 5.)

To start the ball mill, the following steps must be taken:

1. Leave enclosure and close gate.
2. Remove key from pocket and insert in bottom keyhole on gate.
3. Turn bottom key. This locks the gate and makes it possible to remove top key.
4. Remove top key from gate lock.
5. Insert this key in lock and turn.
6. Throw breaker.
7. Start machine by pushbutton. (Figure 2.)

Figure 4

Figure 5

CAUSE AND CURE

These examples are from reports of actual accidents. They list the causes and the steps taken to prevent recurrence

Crushed by Cars

When switchman walked between hopper cars to open coupler, free car rolling down incline struck string of cars and crushed him.

Correction: Standard operating rule of railroads is that there must be "definite understanding for complete protection" against movement of cars before going between to work couplers.

Pinch Point

Helper tried to release crane cable that had run off bull wheel, when cable slipped under weight of bucket and cut off two fingers against wheel.

Correction: Employees were warned to keep hands out of pinch points and to use pinch bar with cable slackened. Guides were placed on spider frame to keep cable in line.

No Barricade

Employee walking through kiln building suffered bruised knee when he ran into steel beam being raised for new construction by contractor's crew.

Correction: Efficient barricades and warning signs were ordered set up to protect both plant traffic and construction crews when repair or construction is under way.

Hand Puncture

Foundry worker was cleaning molds with steel wire brush when bristle pierced finger. Neglect of injury led to serious infection.

Correction: Foreman intensified campaign to convince workers all injuries must be reported at once. Employees were ordered to wear heavy gloves when using wire brushes.

Too Heavy

Employee was trying to turn heavy crate of forged parts on its side when his foot slipped, causing strain with resultant pain in groin.

Correction: Entire crew of shop was reinstructed in proper methods of lifting, with emphasis on importance of getting help to move heavy loads which were numerous.

Acid Spray

Operator without protective equipment was supervising removal of flange on acid pipeline; acid sprayed his face when connection was broken.

Correction: Use of acid goggles, face shields, rubber aprons and gloves was made mandatory for acid workers, who were ordered to release pressure before opening lines.

They'll Wear Clean Respirators

Securing compliance with rules ceased to be a problem when this program was established

Industrial dish-washing machine sprays respirator parts for three minutes with mixture of soap, detergent and 130-135 degree water. All parts are then rinsed with clear water in machine.

SYSTEMATIC cleaning and maintenance of respiratory protective equipment has resulted in a 100 per cent increase in the use of dust, fume and chemical cartridge respirators by employees of the Bethlehem Steel Company, Bethlehem, Pa.

Since the company established its centralized "laundry" for respirators and instituted a daily departmental pick-up and delivery service, voluntary use of the protective equipment no longer is a problem. The program also has enabled the company to keep a close check on its protective equipment and to make sure that workmen wear the proper type of respirators for the hazards to which they are exposed.

Before the program was inaugurated, the company furnished respirators for employees but had no centralized or positive control over their use. Each department purchased its own supply. Workmen frequently discarded an entire respirator if the dust filter became clogged. Often, respirators were left in tool kits where they were subject to damage.

A member of the steel mill's safety staff explained that it was difficult to encourage use of respirators because workmen would not wear the equipment if it was dirty or uncomfortable. Even an intensive educational program pointing out the dangers of not using respirators on hazardous jobs was of little avail.

Today, employees know respiratory protective equipment is sterilized, that it is the right type for the hazard involved and that it is fully effective because of the careful attention the company gives to replacement of worn parts. Even laborers who clean out dusty places now wear respirators voluntarily.

After every shift, workmen turn in respirators at a central location, usually the tool room, in their respective departments. Next day, they are given a thoroughly cleaned, sterilized, cellophane-wrapped respirator. Every dust and fume respirator is equipped with a new filter daily and cartridges in chemical filter respirators are replaced as needed. Respirators are stored in divided compartment cabinets in most departments.

Three basic types of respirators are used at this steel mill—filter-equipped dust respirators; chemical cartridge respirators with interchangeable cartridges for protection against organic vapors, acid gases or ammonia hazards; and metal fume respirators.

An average of 200 respirators are cleaned daily by trained personnel at the central station. The program is arranged so every department is allocated three times the number of respirators it requires. This is done to make sure each worker gets a clean, sterilized respirator daily. Respirator needs of the departments are compiled by the head of the department and the assigned safety supervisor. Changes in the schedule are made as required by new hazards, increased production or other fac-

Respirators, collected daily from various departments, are emptied on the cleaning department counter for dismantling. Each is checked in so same number and types can be delivered to departments.

Respirators used in paint spraying or greasy operations are soaked and hand-washed in 140 degree detergent solution. Ordinary washing machine is used for headbands and soft rubber pieces.

Spraying disinfectant on all respirator parts immediately after rinsing. Parts are dried in a steam heated cabinet.

Reassembling respirator. Worn parts are replaced and filters are changed after every use. Systematic maintenance keeps equipment in active service longer.

After being cleaned and sterilized, respirators are sacked in cellophane.

tors. All potentially hazardous processes are carefully studied by the industrial hygiene department and the safety department to determine type of protection needed.

Each morning a delivery truck is sent to all departments to pick up heavy paper bags containing respirators used the previous day. At the same time, the truck leaves new bags containing a similar number of cleaned respirators for use the following day.

When used respirators arrive at the cleaning station they are checked in so the same number and types can be assigned for delivery the following morning. All respirators are marked with symbols identifying the department in which they are used. These symbols are stamped on respirator bodies with metal dies. Some respirators that must be worn continuously also bear the individual employee's check number.

Once tallied-in, the respirators are dismantled. Main components are segregated into groups because all parts are standard and interchangeable. Filters are discarded immediately regardless of the amount of dust they contain. The company feels that although a filter may have been used only a short time during the day, it is best to replace it. One reason is that it might be used longer the next time and collect too much dust for breathing comfort. Another factor is the psychological effect on workmen who know they are getting a fresh, clean filter each day. Even more important is the efficiency of the respirator maintenance program resulting from standardizing on daily filter replacement. The plant uses about 3,500 filters a month.

Small parts of the respirator assembly — the cloth-elastic headbands and soft rubber pieces — are laundered in hot soapy water in an ordinary domestic washing machine. Larger parts like the aluminum facepieces and rubber facepiece cushions are placed in metal baskets and cleaned in a large industrial dishwashing machine. In this apparatus, parts are sprayed for three minutes with a mixture of soap, detergent and 130-135 degree water. Then they are rinsed for three minutes with a spray of clear water. Small parts washed in the domestic washing machine are spray-rinsed since it is important to remove all traces

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A delivery truck is loaded with bags of respirators for each department. Departments receive a fresh consignment daily.

Worker receives sterilized, cellophane wrapped respirator from supervisor. Program insures proper protection for hazard.

Executive committee of the Electrical Equipment Section, NSC, meeting at the Sylvania Electric Products Co., Emporium, Pa. The committee is formulating an outline for a proposed data sheet.

Sweating Out A Data Sheet

THE TITLE of this article is no exaggeration, as those who have taken part in the preparation of a National Safety Council Data Sheet will testify. And the more technical and specialized the subject, the more painstaking the research behind it. An example is the data sheet on "Cathode Ray Tubes" in this issue.

The Radio Division of the Council's Electrical Equipment Section believes that the danger of injury to employees and to the public from imploding cathode ray tubes (television tubes) has been greatly exaggerated, with possible harm to the industry and public acceptance. The committee felt that most of the apprehension was unfounded and that proper engineering and established safe practices would overcome the hazards of handling and using such equipment.

In preparing a data sheet which could be used as a guide in the manufacturing, handling and distribution of cathode ray tubes for television receivers, a questionnaire was sent out to secure authentic information based on operating experiences in tube and television manufacturing plants.

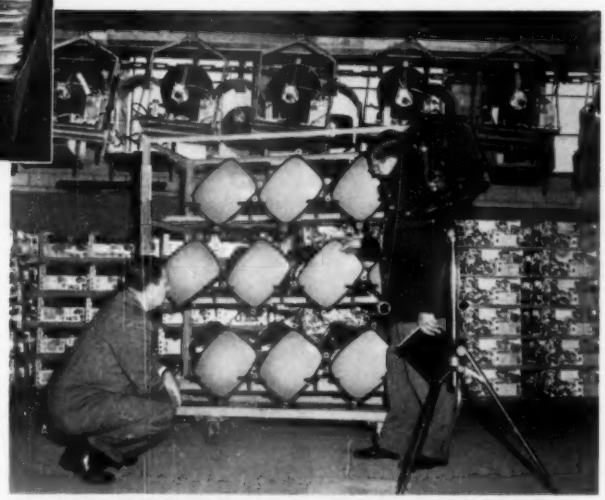
This questionnaire, No. 1 in the accompanying display of documents, shows the successive steps in compiling the data and getting it ready for publication.

No. 2 is a summary of the results of the survey compiled by J. M. Transue, security director

Successive stages in the production of a National Safety Council data sheet.

Mimeographed draft No. 7 of data sheet being mailed out from NSC headquarters to more than 100 reviewers.

J. M. Transue, security director for Philco Corp., shooting pictures in plant showing safe methods of transporting cathode ray tubes.



for Philco Corporation and chairman of the Radio, Electronic and Lamp Division of the Electrical Equipment Section.

This draft was reviewed by the Engineering Committee and by other members of the industry. From the comments, criticisms, suggestions and additions, drafts Nos. 3, 4, 5, and 6 were prepared so that draft No. 7 could be mimeographed and mailed out to 100 different industries.

The returned ballots with recommended changes or enclosed illustrations were incorporated in a final master copy for review by the author, J. M. Transue, and the Engineering Committee of the Section.

No. 8 is the final draft as approved for publication in the December NATIONAL SAFETY NEWS and subsequent reprinting.

Walter E. Martin, safety engineer, Rauland Corp. (center) explaining to George MacDonald, NSC staff representative, safe methods in checking tubes and the use of electric interlocks on hinged front cover.

Engineers of Admiral Radio Corp. reviewing section of proposed data on importance of placing tube upright on padding to prevent damage that might cause implosion.

(Fiction)

CLOSE DECISION

By BILL ANDREWS

December 1, 1950

I am watching Sue as she reads my letter to Lucas. And I know from her expression that she isn't happy about it.

I'm not exactly happy, either, because the decision was a close one, and I probably will never know whether I came up with the right answer.

Lucas is executive vice-president of League Manufacturing. I've known him for a couple of years. He wrote an excellent article for NATIONAL SAFETY NEWS a couple of years ago on the relationship of operating management men to professional safety personnel.

It was a provocative piece, thoughtful, but, in a couple of respects, in conflict with my ideas. I'm not much of a guy to write indignant letters to editors or authors, but, precisely because I respected the article in the main, I wrote Lucas a letter giving him my views.

In the fall of '48, I was in Indianapolis having dinner with Max, my equipment salesman friend. A big, iron-gray, distinguished-looking fellow walked into the hotel dining room, and Max introduced me to him—to Lucas.

He remembered our correspondence, and we picked up the argument. It was one of those rare debates in which both sides got warmed up, battled vigorously for their points of view, and stayed friendly. Before we finished, late that night in Lucas' suite, we had substantially narrowed the area of disagreement, though there was still a place where Lucas felt operations know-how ought to control and where I believed the operating man ought to defer to the safety engineer's judgment.

Last summer, on my way north on my vacation, I stopped off to see Lucas at his plant. It was an impressive set-up—the newest building still smelling of paint and beautifully designed to facilitate the flow of work. I didn't think too much of their machine guarding, but the eye protection program was working, the training set-up was impressive, and there was a remarkably effective use of modern equipment to make the plant a pleasant place to work. The use of lighting was the best I've ever seen, and the foundry was no worse than the second best I've encountered. I wish I had some of the refinements in ventilation they've got.

While there, I dropped in on Len Garr, Lucas' safety director and one of the founding fathers of our National Safety Council section. Len was remarkably enthusiastic about both Lucas and the League outfit. I remember one remark of his particularly: "Young fellow, it's easy to turn in a good safety record with a management like this. They don't just back me up—they drive me to do what's needed."

Lucas pumped me extensively before I left the plant. He questioned me so closely on the machine guarding problem that I couldn't avoid being moderately critical. Then he turned on all his argumentative ability to prove that I was wrong. But it was clear, before the interview ended, that he wasn't trying to convince me—he wanted to see if I could convince him. While he was at it, he subtly worked out of me a complete story of my life and work, my philosophy, family situation, ambitions and hopes.

Shortly before the Congress, our sectional Newsletter carried the announcement of Len Garr's impending retirement. And when I got back from the Congress, there was a letter from Lucas waiting for me. It was an offer of the safety director's job at League at a price a little above my present salary. He stated the other advantages—a somewhat bigger firm in which greater emphasis was placed on safety than at Jackson-Barnes;

a reasonably predictable line of advancement if I clicked; assurance of his complete and enthusiastic support of the safety program.

He didn't state one of the other advantages that is clear to me. League is the kind of outfit that can easily be made an outstanding leader in safety work in the industry—whereas all my work at Jackson-Barnes has merely brought it up from a below-average to an above-average situation as regards accident rates. I'll be a long time winning any national awards or contests here — at League any reasonable breaks would put us on top of the heap, with all the praise, honors and kudos which we all sneer at and which I, at least, would be deeply happy to win.

The Wife Has Doubts

So, I wrote the first draft of my reply the same day I got the letter, accepting the offer, subject to the discussion of a few minor points.

At home that night, Sue and I discussed my draft letter in some detail. She was, of course, filled with normal wifely pride and with some joy at the prospect of improved income. But she quickly regained the even-more-wifely attitude of skepticism and doubt.

She never gave me her opinion on what I should do, but she asked me a question which made me stop and do some hard thinking. It was:

"Can you do more to prevent accidents at League than at Jackson-Barnes?"

My initial reaction was, "Of course. Under the conditions there I can produce a lower accident rate."

But it is either my very good or very bad fortune to have married an intelligent woman who knows something about industry and safety work. She said: "That's not an answer to my question."

I tried again. "I can be more effective because I can get top management action on needed things more quickly, easily and surely. Therefore, a larger share of my effort can be applied directly to the solution of safety problems and less to the maneuvering necessary to sell the solutions after I've determined what they are."

So this sweet and lovely girl, the light of my life, whose neck I often want to wring, smiled sweetly at me and said, "You're still ducking the question. Maybe it's more important to keep hammering at an ignoramus like Joe Roscoe than to be a technician for a bright guy like Lucas."

Now, I think I can be patient with stupidity. I have discussed for a solid hour the virtue of safety shoes with an illiterate who had been badly fitted and developed corns, and thereby became convinced that all safety shoes produced corns, and I've done it without losing my temper or getting peremptory.

But I don't think I'll ever learn to be patient with intelligent criticism. Here I come home full of self-satisfaction, with a pat answer to a specific question, with a perfectly good rationalization for the answer, and what happens? My gal not only attacks my reasoning, but she does it with a measure of wisdom that no such pretty head should ever contain. So I got mad, sulked, then had to apologize, and went to work the next day knowing that I couldn't send the letter, not because I was sure it was wrong, but because I wasn't sure it was right.

Self-searching

My self-searching over the next week gradually turned to a desire to get advice, but most of my channels of advice were closed to me or unlikely to be profitable. Mark, our NSC staff representative, would be useless to contact. All he could tell me I already know: that League is a progressive outfit now doing a better safety job than we are because of the better management attitude.

The only basis on which I could go to Roscoe would be to haggle

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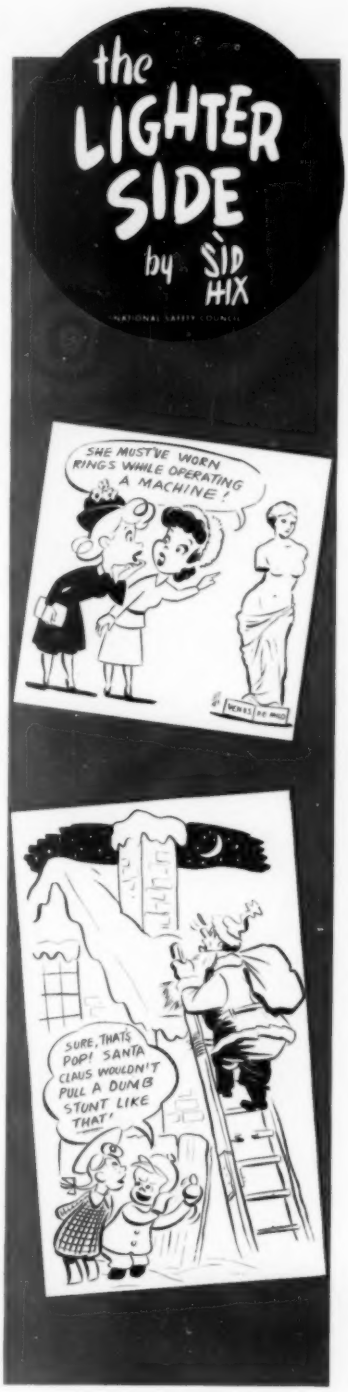

A typographical error in a handbook on nuclear physics expressed the feelings of millions of atom-bewildered people. A page describing giant atom-smashers carried the headline, UNCLEAR PHYSICS.

Many Awards for Distinguished Service to Safety have been won by the armed services. This pennant is displayed at the Pentagon Building outside the office of the Secretary of the Army.

Safety's Supreme Award

Outstanding records win the National Safety Council's Award for Distinguished Service

RECOGNITION for accomplishment in accident prevention has proved to be an important incentive to continued effort. This recognition is appreciated by management, supervisors and men as well as by the safety directors of the companies which are honored.

During the past twenty-five years, contests and awards have come to play an important part in the National Safety Council's program. The earliest of these sectional awards was the "Paper Industry Trophy," founded by *The Paper Industry* Magazine and awarded annually to the member of the Pulp and Paper Section of the Council having the best record for the year. The interest aroused by this competition led to the adoption of the contest idea by many other sections. Each year several hundred trophies and certificates are awarded to member plants of the various sections which have established distinguished records.

There are, of course, many commendable records of accident-free operations which do not qualify for any of these awards. Details of these accomplishments are published monthly in "The Honor Roll" in NATIONAL SAFETY NEWS.

During World War II when American industry was faced with the tremendous problem of keeping down accident rates while meeting the nation's demand for increased war production, it was felt that some special recognition should be given to those companies which were making significant contributions to strengthening the nation's war power through the conservation of manpower.

To recognize these war-time achievements, the Council's Award of Honor for Distinguished Service to Safety was established.

With each award, the company receives an embossed certificate citing the details of the record. The official Distinguished Service to Safety Award pennant is available on order. It may be flown by the company or plant receiving it as long as its record does not deteriorate to a point where its rates are above the average for the industrial classification to which it belongs.

A company or plant receiving the award more than one time may display a pennant bearing a star for each award after the first. For example, a third award merits two stars; a fourth, three, and so on.

From 1942 to date, 542 awards have been made to 228 organizations.

The administration of these awards has been under the jurisdiction of the Committee on Statistics and Contests of the Industrial Safety Conference. The 1949-50 personnel of this committee consists of:

George W. Greenwood, Hawthorne Works, Western Electric Company, Chicago, Chairman.

Charles F. Moberg, Kraft Foods Company, Chicago, Vice Chairman.

R. W. Croucher, Minnesota & Ontario Paper Company, International Falls, Minn.

A. Scott Dowd, Fritz Publications, Chicago.

J. Howard Myers, Atlantic Refining Company, Philadelphia.

H. B. Duffus, Westinghouse Electric Corporation, Pittsburgh.

H. L. Miner, E. I. du Pont de Nemours Company, Wilmington, Del.

R. A. Harschnek, Swift & Company, Chicago.

During the past few years, standards for safety performance have been rising and the rules for the Distinguished Service to Safety Awards have recognized this trend. Each time the rules have been revised, the recommended changes have been sent out to be discussed by the entire Industrial Conference of nearly 100 persons representing the 26 industrial sections and other groups.

The latest change became effective October 15, 1950. Following is a summary of the present general rules adopted by the Industrial Conference.

To be eligible for the award, an industrial establishment must be a member of the National Safety

Council and report its experience to the Council. A plant will be considered for the award when it has worked 3,000,000 man-hours.

If the 3,000,000 man hours' exposure is completed in one year, the plant shall be judged on its annual record, January 1 through December 31. Each plant operating less than 3,000,000 man-hours per year shall be judged on its record for the minimum number of calendar years required to develop 3,000,000 or more man hours.

In addition to these requirements for minimum exposures, the following conditions for eligibility have been established:

The plant's reported frequency and severity rates, compiled in accordance with the American Standard Method of Compiling Industrial Injury Rates, are among the best 10 per cent of the rates reported for the year in the largest size group in its industrial classification.

Its reported frequency and severity rates are no higher than its reported rates for the preceding year (or years, if more than one year is required to meet the minimum exposure).

Its reported frequency and severity rates are no higher than the average rates of all reporters to the National Safety Council for that year, as published in ACCIDENT FACTS.

The industrial classification in which each plant is entered is the specific industry group in which the plant is shown in the National Safety Council's "Accident Rate Pamphlet" for that industry. For example the industrial classification for a plant making paper boxes will be "Boxes and Containers" in the "Accident Rate Pamphlet for the Pulp and Paper Industry." When the number of reporting plants is great enough, the plants will be classified further into size groups within the industrial classification. The largest size group in an industrial classification will be the group into which

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The SAFETY VALVE

Words and Music

I HAVE always admired people who get out original Christmas greetings. Among my friends are several who always come up with some sparkling verse or a bit of sentiment all their own. Our family has to fall back on canned sentiment from the bookstore, and it makes me feel distinctly inferior.

Last year my mail included some delightful booklets of classic gems of poetry and prose and monographs on Christmas carols. These were stored away in the Christmas file for future inspiration.

Such material helps a lot in getting one into the Christmas mood two weeks before Thanksgiving.

Christmas without the traditional music is something that isn't pleasant to think about. Of course we get surfeited with it, just as we do with turkey and dressing. But eleven months later we are ready to welcome it again.

Music of the season runs the whole gamut from "I Yust Go Nuts at Christmas" to the those majestic masterworks, "The Messiah" and Bach's "Christmas Oratorio." Church choirs and choral societies are beginning rehearsals of Advent music. Other groups are practicing less sedate numbers.

Not everybody can appreciate Bach and Handel but there is a wealth of Christmas carols which all can enjoy. In these less pretentious lyrics, poet and composer have joined to bring their gifts of devotion to the Christ Child.

The number of Christmas poems produced over the centuries has been immense. Of these, perhaps a dozen have become immortal. None has a more enduring place than the "Adeste Fideles." In both the Latin and English versions it is sung by the faithful everywhere.

For a hundred years "Hark the Herald Angels Sing" was merely one of six thousand sacred songs written by Charles Wesley. Long after the author's death it was set to Mendelssohn's joyous music and its place was assured.

Isaac Watts contributed many gems to English hymnology, none better known than "Joy to the World." Like many another poem it waited many years for a worthy musical vehicle. It was provided by Lowell Mason in a tune inspired by Handel's Messiah.

Of all the carols, none has captured the mystic atmosphere of Christmas Eve and the Nativity so feelingly as "O Little Town of Bethlehem." Phillips Brooks was one of the princes of the pulpit but his sermons have been forgotten. He will always be known by this exquisite hymn written for children but loved by people of all ages and provided with a lovely setting by an obscure organist, Lewis Redner.

Longfellow is seldom thought of as a hymn writer but he has contributed a prayerful carol. "I Heard the Bells on Christmas Day" is less widely sung than many of the others but it seems peculiarly suited to these times. No special setting has been more effective than the stirring tune "Waltham."

The poet's faith, in times scarcely less troubled than these, is nobly expressed in these lines:

> Then pealed the bells more loud and deep,
> God is not dead, nor doth He sleep;
> The wrong shall fail, the right prevail
> With peace on earth, good will to men.

Carman Fish

Awarding the Sentinels of Safety trophy. Left to right: I. N. Bayless, president, Union Pacific Coal Company; A. E. Stoddard, president Union Pacific Railroad Company, and J. I. Horty, editor, The Explosives Engineer.

Prominent Guests Attend Award Presentation

IN the presence of several prominent guests, including Senators Joseph A. O'Mahoney and Lester C. Hunt, employees of Reliance No. 7 Mine of the Union Pacific Coal Company and their wives were honored at a dinner held in Rock Springs, Wyoming, September 22, in honor of their nationally outstanding safety record.

For the second consecutive year, Reliance No. 7 Mine has won the Sentinels of Safety trophy in Bituminous Coal Group of the National Safety Contest sponsored by the U. S. Bureau of Mines in conjunction with *The Explosives Engineer* magazine. During 1949 the mine operated 386,750 man-hours without a disabling injury, with a total of more than 900,000 safe man-hours to date.

A. E. Stoddard, president of the Union Pacific Railroad, was introduced by I. N. Bayless, president of the Union Pacific Coal Company.

"Where would the Union Pacific Railroad be without the Union Pacific Coal Company?" Mr. Stoddard said. "The railroad has to have coal, and one of the most gratifying things is that we have the best mines west of the Mississippi. We have the best miners, the best supervision, the best safety record and the best coal. When we have a group as large as No. 7 mine that can work 900,000 man-hours without accident we know that we have men who know how to do the job.

"I personally want to thank each one of you, and that includes you ladies, you who are primarily responsible for the wonderful showing, on behalf of the 48,000 railroaders in the Union Pacific System and for the 56,000 stockholders. They are, as I am, indeed proud of the record."

In presenting the trophy to Mr. Bayless, J. I. Horty, editor of *The Explosives Engineer*, said that the record was due partly to the careful program in force, but even more to the judgment of the men in the mines.

Of the 159 bituminous coal mines entered in the 1949 contest eight finished the year without accident. On the basis of man-hours worked No. 7 was the winner. In the 17 years that Union Pacific mines have been entered in the contest, 11 of them have won the Sentinels of Safety trophy. Leon Wisniewski, machine runner at No. 7, accepted the trophy for the men.

"We are very appreciative of the honor bestowed on us tonight," he said. "In winning the award we are well aware that whatever success we have achieved has been due to the cooperation, the able work and leadership of many fine men upon whom we have relied for advice and assistance.

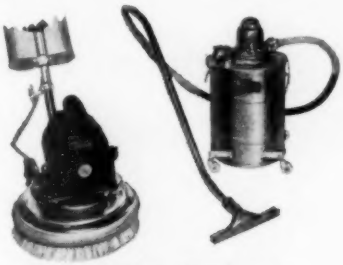
"A good share of the honor goes to the Union Pacific Coal Company who have dedicated themselves to the task of making their mines safe. Credit is also given to the supervisory force of the company for the able manner in which they have carried out the safety program; to the Federal and State Bureaus of Mines for their knowledge and assistance, and to the safety committee of Local Union No. 905, who represent the men directly, for their efforts and cooperation in carrying out the requirements of the safety code and safety program.

"And now, Mr. Bayless, through you and in behalf of the men of No. 7 mine, I want to thank the Union Pacific Coal Company for the distinction conferred upon us tonight, and I thank the distinguished guests for the compliment of their attendance."

Representatives of the Union Pacific Railroad accompanying Mr. Stoddard were: R. M. Sutton, general auditor; H. E. Shumway, general manager; C. J. Columbo, assistant superintendent, Wyoming Division; E. H. Bailey, superintendent, Wyoming Division; Paul Echele, Denver traffic manager; and C. E. Astler, Cheyenne, general agent.

Other guests were Tracy McCracken, prominent Wyoming newspaper publisher, and O. B. Koerfer, the Cheyenne paper's general manager; Mayor Edwin E. James, representing the city, and E. H. Denny, Denver, representing the Bureau of Mines.

With Dispenser for Hot Waxing



With Water Tank and Vacuum for Rug Scrubbing

With Pad for Steel-Wooling

★

Interchangeable Brush Rings and Discs

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Steel-Wire Brush

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Grinding Disc

THE MOTOR-WEIGHTED MACHINE THAT GIVES YOU

8-Way Adaptability!

Those who need a motor-weighted floor-maintenance machine will find that they can do more—and thus save more on labor costs—with a *600 Series Finnell.* This general-purpose *Finnell* can be used to wet-scrub, apply wax, polish, scrub rugs, steel-wool, dry-scrub, sand, and grind!

A *Feather-Touch* Safety Switch provides *complete* automatic switch control. Switch works with either hand from either side of handle; when released, machine stops. Self-propelled . . . the machine glides over the floor with virtually effortless guidance. Extra strong but light-weight handle (won't tire operator), horizontally-mounted motor, and correct distribution of weight afford truly balanced operation.

Engineered to Give Added Protection

The *600 Series Finnell* gives you the advantage of *two-way speed reduction.* Multiple V-belts are utilized ahead of the speed reduction gear case to alleviate strain and provide *extra* protection for motor and gears. The machine has G. E. Drip-Proof Capacitor Motor . . . Timken Bearings . . . ruggedly constructed worm drive in extra-capacity leak-proof gear case, lubricated for 2500 hours. Smooth and noiseless in performance . . . a precision product throughout. Four sizes: 13, 15, 18, and 21-inch brush diameter.

There's *a Finnell man nearby* to help train your maintenance operators in the proper use of *Finnell Equipment.* For consultation, demonstration, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 2212 East St., Elkhart, Ind. Branch Offices in all principal cities of the United States and Canada.

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BRANCHES IN ALL PRINCIPAL CITIES

Harriman Medals Presented

Arthur V. Rohweder receives the Arthur Williams Memorial Medal from Julien H. Harvey, chairman of the Memorial Award Committee. At the left is Col. John Stilwell, member, Board of Trustees and past president, National Safety Council.

THREE railroads which led their respective classes in safety performance during 1949 received the Harriman Gold Medals for the year at a dinner held at the Hotel Ambassador in New York, on September 20. The awards were presented by Alvin Barber, a trustee of the American Museum of Safety, substituting for Wallace J. Falvey, president of the Museum, who was absent on account of illness.

Among Class A railroads (those operating more than 10,000,000 locomotive miles annually) the gold medal went to the Norfolk & Western Railway. It was accepted by R. H. Smith, president of the road.

In Class B (less than 10,000,000 but more than 1,000,000 locomotive miles annually) the winner was the Western Maryland. The medal was received by Eugene S. Williams, president.

Class C winner (less than 1,000,000 locomotive miles annually) was the Colorado & Wyoming, whose vice-president, Ward Wire, accepted it.

Certificates of commendation went to the following: Eastern district: Class A — Erie; Class B — Philadelphia-Reading Seashore Lines; Class C — Detroit & Mackinac.

Western district: Class A — Union Pacific; Class B — Duluth, Missabe & Iron Range; Class C — Texas Mexican.

Southern District: Class A — Louisville & Nashville; Class B — Gulf, Mobile & Ohio; Class C — Tennessee Central.

Switching and terminal companies receiving the first awards ever made in those categories were Baltimore & Ohio Chicago Terminal (ST-1) and Birmingham Southern (ST-2).

At this meeting the Arthur Williams Memorial Medal was presented to A. V. Rohweder, superintendent of safety and welfare for the Duluth, Missabe and Iron Range Railroad. The presentation was made by Julien H. Harvey, chairman of the Arthur Williams award committee.

The citation reads:

...Awarded to Arthur V. Rohweder for his inspiring leadership in national, state and local safety achievement.

Arthur V. Rohweder has been engaged in railroad safety for thirty-seven years and was one of the first Safety Inspectors in railroad history. For thirty-three years he has been in charge of accident prevention for what is now the Duluth, Missabe and Iron Range Railway Company, an organization without a peer in railroad safety.

Since 1924 a member of the National Safety Council's Board of Directors, he has served as Vice-President respectively for Industrial, Local Safety Councils and Farm and Home Safety. He is a Past President of the Veterans of Safety.

An organizer of the Minnesota Safety Council in 1928, and its President since 1934, he serves as Safety Consultant to the Governor of Minnesota and as Chairman of the Safety Representatives of its State Departments. This work on the state level has placed Minnesota in a position of preeminence among all states because of its comprehensive program in all areas of accident prevention.

Arthur V. Rohweder steadfastly continues to devote, with eminent success, a useful life to the alleviation of human suffering and the saving of human life.

Honor Walter Paine In Memorial Fellowship

A fellowship has been established at New York University as a memorial for Walter S. Paine, for many years manager of the engineering and inspection department of the Aetna Life Affiliated Companies. Announcement of the fellowship was made by the University's Center for Safety Education. Carrying an annual grant of $1,500, it was made possible by the Association of Casualty & Surety Companies.

Mr. Paine was vice-president for industrial safety of the National Safety Council and served with the engineering and project committee of the Association of Casualty & Surety Companies. For many years he was active in ASA sectional committees working on safety standards, as the chairman of the Safety Code Correlating Committee, and as a member of the Standards Council.

The amount of sleep required by the average person is about five minutes more.

Experience Unlimited!

The Legge System of Safety Floor Maintenance

In nature, it's instinct . . . in business, it's experience that imposes the necessity for current action to circumvent future hazards. Right now . . . before any costly slip-and-fall accidents occur . . . is the time to take a look at your floors. Are they safe to walk on . . . for everyone . . . at all times? Only with the Legge System of Safety Floor Maintenance and Legge Safety Polishes and Cleaners can you really be assured that your floors are BEAUTIFUL . . . CLEAN . . . SAFE.

Unlimited experience with all types and varieties of floors over the past twenty years is available to you. Let Legge Safety Engineers create a specific floor-care program — free of charge to users of Legge Safety Floor Products . . . for you now, and avoid future hazardous slip-and-fall accidents. Use the coupon below to get your free copy of "Mr. Higby Learned about Floor Safety" and see for yourself why the Legge System of Safety Floor Maintenance can make your floor safe too.

Walter G. **LEGGE** *Company, Inc.*
Architects Bldg., 101 Park Avenue
New York 17, N. Y.
Branch Offices in Principal Cities.
In Canada, J. W. Turner Co., Toronto.

LEGGE SYSTEM
of Safety Floor Maintenance

Walter G. Legge Company, Inc. NC-4
101 Park Ave., New York 17, N.Y.
Please send me my free copy of "Mr. Higby Learned about Floor Safety."

NAME _____ TITLE _____
COMPANY _____
ADDRESS _____
FLOOR AREA _____ SQ. FT. _____ TYPE _____

THE ACCIDENT BAROMETER

Prepared by the Statistical Division, National Safety Council

ACCIDENTAL deaths in August numbered approximately 8,000, an increase of 4 per cent from 1949. There were more deaths than last year from motor-vehicle and public non-motor-vehicle accidents, while deaths from home and occupational accidents showed no change.

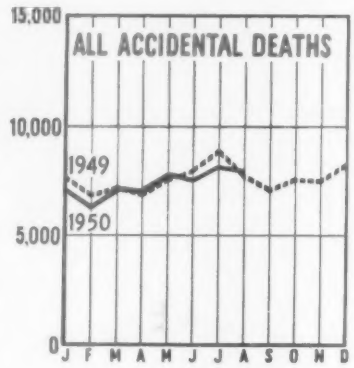
The eight-month total was approximately 58,800, a 3 per cent decrease from last year. Sizable reductions in deaths from home and public non-motor-vehicle accidents were partially offset by a large increase in motor-vehicle fatalities and a small increase in deaths from occupational accidents.

Motor-Vehicle Deaths

There were approximately 3,180 deaths from motor-vehicle accidents in August, or 10 per cent more than last year. Compared to 1948, it was an increase of only 2 per cent.

Deaths during the eight months totalled 21,500, or 11 per cent more than the 1949 comparable total of 19,290. The eight-month death rate per 100,000,000 vehicle miles was 6.9, the same as in 1949.

Of the 46 states reporting for eight months, 14 had fewer deaths than last year, 3 had no change, and 29 showed increases. Reporting cities with populations of 10,000 or more had an increase of 16 per cent for August and 7 per cent for the eight months.



	1950	*1949*	*Change*
August	8,000	7,700	+4%
Eight Months	58,800	60,700	—3%

Regional changes from 1949 in the eight-month death totals were:

North Atlantic	+ 6%
South Atlantic	+20%
North Central	+ 7%
South Central	+17%
Mountain	+22%
Pacific	+ 5%

Occupational Accidents

Deaths in August resulting from occupational accidents numbered about the same as last year—1,300. The eight-month total was 10,300, an increase of 200 deaths over 1949.

The August frequency rate per million man-hours in seven sectional accident prevention contests conducted by the National Safety Council was 7.24, an 8 per cent decrease, while the eight-month rate was 6.77, a reduction of only 2 per cent from 1949. The August rate for community council interplant contests was 9.20, a 19 per cent reduction from August, 1949. The eight-month rate also decreased—12 per cent to 8.43.

Public Deaths

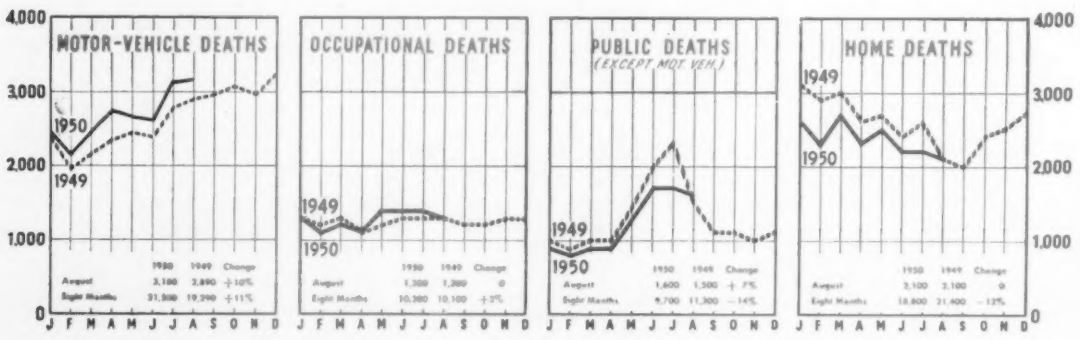
Public non-motor-vehicle deaths numbered approximately 1,600, or 100 more than occurred last year.

Deaths during the eight months totalled 9,700, a decrease of 14 per cent from 1949. There were sizable reductions in deaths from transportation accidents and unclassified public accidents; moderate reductions in drownings and falls; and a small decrease in deaths from firearms accidents. Fatal burns showed a large increase over last year. Most of the improvement occurred among persons 15 to 24 years of age, but deaths of children under 15 years and persons 25 years and over also decreased.

Home Deaths

Deaths from home accidents numbered approximately 2,100, or about the same as in August, 1949.

The eight-month death total was about 18,800, a decrease of 12 per cent from last year's comparable total of 21,400. Large reductions occurred in deaths from falls, mechanical suffocation and unclassified home accidents and small decreases were reported in poisonings and deaths from firearms accidents. All age groups showed some decrease from 1949 with the largest per cent reduction recorded for persons 65 years of age and over.



At the Congress→

← At the Stevens

Safety's Largest Exposition

LIKE the National Safety Congress, the Safety Exposition has been growing steadily. A few years ago The Stevens Hotel was able to accommodate all sessions under one roof and the hotel's vast Exhibit Hall was ample for the Exposition.

Recent Congresses, however, have required the meeting rooms provided by four hotels, and the Exposition has long since outgrown the original facilities. For several years a Public Safety Exposition has been held in the hotel housing the related sessions. This year, one section of the Exposition, both industrial and public safety exhibits, was held in the Casino Room of the Congress Hotel, just a short walk along Michigan Avenue from the Stevens. It was undeniably the most comprehensive display of equipment for all phases of safety yet displayed at a National Safety Congress.

Throughout Congress week interested visitors were making the rounds of the exhibits, stopping frequently at booths whose products were of special interest to them.

To those visiting a Safety Exposition for the first time, the displays were a revelation of the number of items involved in industrial safety work and their importance in every-day operation.

Personal protective equipment for all parts of the body and for practically all occupations occupies a prominent place in every safety exposition. The various items were there in great variety, attractively displayed.

Of importance in the plant protection program were the exhibits of fire-fighting equipment for various types of occupational hazards and containers for flammable liquids.

Housekeeping and sanitation were featured in several exhibits. These displays included washroom equipment, vacuum cleaners, floor maintenance machines, oil and grease absorbents, skin cleansers, detergents and germicides and other devices and supplies for plant and personal cleanliness.

Prevention of falls was the purpose of many products. There were exhibits of many types of ladders and scaffolds and ladder shoes, anti-slip flooring materials and floor finishes.

Guards for certain machine operations were demonstrated on actual machines.

Handling material equipment, of practical interest to both operating and safety men, was represented in the exhibits of wire rope and hoisting chains, slings and accessories, and devices for mechanical handling.

The place of adequate first aid and medical facilities in connection with the safety program was emphasized in the displays of equipment and supplies for all types of industrial operation and for both large and small plants.

Insurance and engineering services and aids for training and promotion were featured in several booths. Conspicuous at both the Stevens and the Congress hotels were the displays of the National Safety Council's services and materials.

Exposition Exhibitors

Acme Protection Equipment Co.
Advance Glove Manufacturing Co.
Aetna Life Affiliated Companies
Alan Wood Steel Co.
American Abrasive Metals Co.
American Chain & Cable Co., Inc.
American-LaFrance-Foamite Corp.

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DUST IS EXPENSIVE

UNCONTROLLED DUST that 'gets by' old-fashioned floor care . . . *spreads* air-borne bacteria that may cause absenteeism . . . *redeposits* itself in bins, shelves, finished products where it must be removed again . . . *tracks* into clean areas and makes floor surfaces unsightly and insanitary!

WESTONE CONTROLS DUST. Inexpensively. It's an antiseptic floor treatment. Inhibits the growth of certain bacteria right at the source. Loosens and picks-up all dust. Seals surfaces. Holds subsequent dust down for quick, easy removal. Keeps bins clean. Speeds materials handling. Reduces floor maintenance costs up to 50%. As a WEST representative can easily demonstrate. Without charge.

WESTONE an antiseptic *DUST CONTROL* floor treatment.

Visit our Booth 821 at the Plant Maintenance Show, Cleveland.

WEST DISINFECTING Company

Show me how to save money by controlling floor dust

West Disinfecting Company, 42-16 West Street, Long Island City 1, New York
(64 Branches in the U. S. and Canada)

Gentlemen: I'd like to have a local WEST representative come out and give me a demonstration of Antiseptic WESTONE dust control. On this date_____

Mr._____ Position_____

Company_____

Address_____

City_____ Zone____ State____

7

Firemen Study Electric Hazards

A PRACTICAL fire school, in which electrical hazards were discussed and demonstrated, was recently conducted in Cincinnati by The Cincinnati Gas & Electric Company and the Cincinnati Fire Department. The school has proved helpful in creating a better understanding of mutual problems, including electrical hazards and the techniques used to control them.

The school was planned by Fire Chief B. J. Houston and Drill Master Louis P. Purcell. Cooperating with Fire Department officials were Fred R. Rauch, vice-president and director of industrial relations of the company, and members of its electrical departments.

Instruction was presented over a period of four days to enable all officers of the Fire Department to attend. Many training aids, including motion pictures, slides, charts and full scale electrical equipment were used in the classes. Of particular interest to many new officers was a discussion of the utility's properties and the steps to be taken in fighting a fire or handling other emergencies.

Time was allotted at each session for a question and answer period and participants presented unusual problems they had encountered and received advice on how to handle similar incidents in the future.

John C. Hummel, left, engineer Electric Meter Dept., demonstrates some of the equipment for Fire Capt. Carl H. Wood.

Class instructors included Meyer H. Williams, chief electrician, West End Power Station; Everett Stephens, general foreman, Trouble Department, Electric Distribution Dept.; Gene Cappel, safety supervisor, Electric Distribution Department; John Hummel, associate engineer, Electric Meter Department; Charles Thomas, engineer in charge of Underground Engineering Section, all of The Cincinnati Gas & Electric Company, and Bob Taylor, Bussman Fuse Company.

Part of the class of Cincinnati Fire Department officers look on as instructions get under way at the Fire College.

Everett Stephens, general trouble foreman, demonstrates electrical safety techniques to Assistant Fire Chief Leo Kuhn, center, and Marshal Louis Purcell.

Warns of Firetraps in College Dormitories

Colleges and universities are woefully unprepared for the existing danger of residence hall fires.

That was the warning sounded by John J. Ahern before the recent annual meeting of the Federation of Mutual Fire Insurance Companies in Boston. Prof. Ahern, director of fire protection and safely engineering at Illinois Institute of Technology, cited the serious trend in college dormitory fires in recent years.

"Many colleges are not aware of the hazards they are harboring. Some institutions cannot afford necessary help, vital as it may be. That is where the insurance companies must step in."

The traditional-type dormitory, fraternity, and sorority building, he said, was "built to burn and burn quickly."

"This building has a large open central staircase which conducts fires quickly to the upper floors. It also has an attic under a wooden roof which bridges division walls and serves to spread the fire across the entire structure.

"This is made even more serious by the practice of using the attic space as part of the air circulation system with vents from rooms emptying into the attic. Fire in any room is thus carried to the attic and throughout the structure.

"There is the all-too-common practice of overloading electrical circuits by connecting desk lamps, floor lamps, electric clocks, radios, electric razors, and hot plates to a single outlet. Many dormitories were built before the electrical age, and their electrical systems cannot carry the load imposed on them."

Other inadequacies pointed out were lack of emergency exits, substandard watchman service, lack of automatic alarm systems, and lack of instruction in use of extinguishers.

He urged insurance companies to take the initiative in educating not only the students, but college administrators as well, in minimum safety precautions, and called upon educators to mend their fences while they can.

The Honor Roll

Records of operation exceeding 500,000 man-hours, or one year, if exposure exceeds 250,000 man-hours, without a disabling (lost-time) injury are invited.

American Welding & Mfg. Co.
Warren, Ohio—890 days; 1,545,413 man-hours as of September 1. This is the best record reported to date for the miscellaneous group of the sheet metal industry.

Alabama Power Co.
Birmingham, Ala.—February 3 to May 3, 1950; 1,806,102 man-hours.

American Brake Shoe Co.
American Manganese Steel Div., Joliette, Que.—March 1949 to July 31, 1950; 411,292 man-hours.

Aluminum Co. of America
Aluminum Ore Co., Mobile, Ala.—674 employees; May 4 to October 1, 1950; 575,820 man-hours; continuing.

Armco Steel Corp.
Ashland, Ky., Weld Shop—1,168,075 man-hours as of August 31, 1950; continuing. On August 28 the shop completed 22 years without a disabling injury. It has been under the same foreman, John B. Cunningham, since it was formed February 1, 1924.

Butler, Pa., Maintenance Shops—3 years; 1,811,902 man-hours as of August 31.

American Smelting & Refining Co.
Globe Plant, Denver, Colo.—October 6, 1949, through October 31, 1950; 329,615 man-hours.

Clark Equipment Co.
Buchanan, Mich., plant—All departments, June and July, 560,861 man-hours; Axle Div., 524,864; Production Control, 288,000; Foundry Core Room, 570,584; Tool Div., 404,016; Maintenance, 302,500; Housing Div., Line 2, 432,400; Housing Div., 518,400.

Battle Creek, Mich.—All departments, December 1, 1949, to October 31, 1950; Tool Div., 440,979; Tractor, 797,658; Frame, 353,863; Misc. Mach. and Pc. Mach., 598,653; Turret Lathe, 568,695; Maintenance, 399,121; Service, 579,137; Materials, 370,063.

Jackson, Mich.—Dept. 802, 300,600; Dept. 803, 277,200; Dept. 814, 280,800; Tool Div., 252,180; Inspection, 262,800; Forge Div., Plant No. 2, 510,000; Hammer Shop, 378,000.

General Mills, Inc.
Buffalo Cereal Plant—December 27, 1948, to September 14, 1950; 1,938,146 man-hours. This is the best record yet reported for cereal plants.

The B. F. Goodrich Co.
Aeronautical Div., Akron, Ohio—October 7, 1949, through October 7, 1950; 1,262,874 man-hours; continuing.

Kimberly Clark Corp.
Canadian Cellucotton Products Co., Ltd., Niagara Falls, Ont.—1,211 days; 2,809,700 man-hours. This is the best record yet reported for tissue mills.

Peter Cailler Kohler Swiss Chocolates Co., Inc.
Fulton, N. Y.—January 12 to June 20, 1950; 1,146,219 man-hours.

St. Regis Paper Co.
Bag Div., Nazareth, Pa.—January 13, 1949, to October 1, 1950; 450,000 man-hours; continuing.

United States Steel Products Co.
Boyle Mfg. Div., Los Angeles—August 1948 to September 30, 1950; 1,760,246 man-hours.

U. S. Dept. of Agriculture
Forest Service, Atlanta Regional Office—September 30, 1949, through September 30, 1950; 268,000 man-hours.

Victor Chemical Works
Nashville, Tenn.—1,389 days; 2,356,352 man-hours as of October 18, 1950.

Safety Begins at Home

G. Stuart Mansfield, newly elected general chairman of the Printing and Publishing Section, was paying a visit to the Council's headquarters office during the last day of the Congress.

His eye caught the guard on the stringer in our mailing room—and he liked it. The picture, and these comments, are the result.

Such guards are not common enough on such equipment, and the whipping arm is a potential source of injury unless it is guarded.

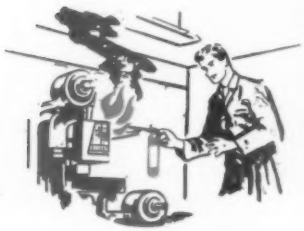
The Council machine also carries two decals. The one which shows reads *Caution, shut off machine when not in use,* and the one under the stack of envelopes, visible when each new batch is put on the tying machine, reads *Caution, to be used by authorized employees only.*

Mr. Mansfield has made one change of interest on his own machines of this type. He has sawed off the short segment of the "L" foot treadle, so that the operator has to place her foot precisely on the remaining straight bar, which makes it less easy to trip the pedal accidentally.

Safety First

Safe-T-meter

THE SENSATIONAL NEW LINE OF HAND PORTABLE, DRY CHEMICAL FIRE EXTINGUISHERS THAT OFFERS POSITIVE ON-THE-SPOT FIRE PROTECTION!



The exclusive Safe-T-Meter gauge tells you at a glance it's **Ready To Go!**

NEW RECHARGE CYLINDER MAKES PRESSURIZING EASY!

Just follow simple directions on recharge cylinder label... no tools or technical knowledge is needed. When cylinder is expended return to your Safe-T-Meter dealer for replacement.

Write also for information concerning the complete line of Safety First Industrial Dry Chemical Extinguishers.

Ranging in size from 5 lbs. to 30 lbs., there is an extinguisher to fit your every need!

SAFE-T-METER FEATURES!

B-2, C-2 Underwriters' Rating, Pressure Gauge Tells Status Of Extinguisher At A Glance, Can Be Used Intermittently, On-The-Spot Refilling, No Tools Required

Now, for the first time, Safe-T-Meter, Safety First's revolutionary, new visual gauge fire extinguisher offers positive on-the-spot protection! Its easy-to-read dial tells its status at a glance . . . eliminates the danger of an empty extinguisher when fire strikes! Available in 2½ and 4 lb. models, Safe-T-Meter weighs so little and is so easy to operate that even a child can use it. Economical, too, because Safe-T-Meter's sturdy, precision built construction lasts a lifetime . . . its highly effective Safety First dry chemical is inexpensive to replace. Write now for complete information!

SAFETY FIRST PRODUCTS CORP.

ELMSFORD • NEW YORK

Calendar Contest Winners For October

First prize in the National Safety Council's Safety Calendar Contest goes this month to Mrs. A. J. Pierre of Dayton, Ohio. The theme in this contest was teamwork for safety. Mrs. Pierre's two-line rhyme was adjudged best of all those submitted. It was:

Teamwork is our greatest need
For safety, savings, service, speed.

Second prize went to Mrs. H. Erickson of Hamilton, Ontario, for this rhyme:

Open your eyes! Stay on the beam!
Remember, you're not a one man team.

Third prize was awarded to Mrs. Eva Alexander of Syracuse, N. Y., for the following rhyme:

Good team work
Means "on the beam" work.

Thirty $5.00 awards were issued to:

Mrs. James Webster, Dallas, Tex.

Frank Cowan, Perry, Iowa, chief engineer, Arnold Bros., Inc.

D. H. Ernst, Selinsgrove, Pa., manager, Weis Market.

Mrs. Virginia Mock, Guthrie, Okla., housewife.

Morris Rutledge, St. Louis, Mo.

Dorothy B. Koteen, Washington, D.C., accountant.

George B. Casteel, San Francisco, Calif.

Mrs. Ida Maze, Fairmont, W. Va., housewife.

Nancy Watkins, Jackson, Miss., secretary, Miss. Travelers Assn.

Ruth E. Renkel, Elyria, Ohio, machine operator, General Industries Co.

Hugh F. Lovering, Boston, assistant safety manager, New England Power Service Co.

M. W. Stepper, N. Kansas City, Mo.

Nancy Wilson, Rowayton, Conn., student.

Serena C. Bailey, Lakeland, Fla., librarian.

Martin Manion, Minneapolis, Minn.

Alexa Bissell, Cornwall, Ontario, employed by Howard Smith Paper Mills, Ltd.

H. G. Hanson, St. Louis, Mo.

Miss Mollie J. Tracy, Rockaway Park, N. Y., agent, West End Realty.

Revah Summersgill, Cleveland, Ohio.

Richard Wright, Champaign, Ill., U. of I. student.

Perry Colton, Lewiston, Idaho, employed by Potlatch Forests, Inc.

Jean Allen, Bedford, Ohio.

Lloyd Ira Miller, Allentown, Pa., Adv. Dept., Penn. Power & Light Co.

Alma Simmons, Detroit, Mich., Sales Dept., Morse Chain Co.

Clayton Crews, finance clerk, U. S. Army, Camp Pickett, Va.

Mrs. Donald E. Waldeck, Hermosa Beach, Calif.

Rev. Ambrose L. McGreevy, Washington, D. C.

Mr. Louis E. Palffy, Minneapolis, Minn., miller with Standard Milling Co.

Paul H. Pyles, Manhaim, W. Va., Alpha Portland Cement Company.

Barbara Constant, El Paso, Texas, housewife.

Noise Sleuths Track Down Machinery Din

Acoustical detectives are using noise circuits similar to electrical circuits to track down the sources of machinery noise, said Dr. Howard C. Hardy, supervisor of acoustics and vibrations at Armour Research Foundation of Illinois Institute of Technology, in an address before a recent National Noise Abatement Symposium on the Illinois Tech campus.

"Just as in a violin," Dr. Hardy explained, "the source of sound is the slipping action of the bow on the string, but the radiating surface is the body of the violin. The noise engineer must be careful to distinguish between the source of sound energy and the sources of radiated sound."

Once noise engineers have made diagrams of all noise energy paths in a machine, they can reduce the sources of sound or disconnect the circuit at some point.

Dr. Hardy called the breaking of a noice circuit "de-coupling." He cited the spring mountings used on car engines: the engine shakes, but not the car itself.

"There is just as much energy, but less noise," he explained.

"Sometimes an experienced research worker in noise reduction can quickly recognize the gremlins which cause the trouble," Dr. Hardy said. "More often, however, noise reduction comes about by careful scientific analysis, good measurements, and keen engineering insight by a team of experienced workers."

Finding the original sound source in a machine is often complicated by the fact that there are secondary sources between the energy source and the radiating surface, he added. The noises follow devious paths, all requiring careful analysis.

"By making schematic diagrams on which are plotted the paths that noise energy takes between its source and radiation point, the relative influence of each path can be evaluated and the simplest and most inexpensive method determined to produce results," the speaker concluded.

Harp: A piano in the nude.

COMING EVENTS

In the Field of Safety

Feb. 6-7, Philadelphia
Seventeenth Annual Philadelphia Regional Safety Conference and Exhibit. (Bellevue-Stratford Hotel). Walter W. Matthews, managing director, Philadelphia Safety Council, 17th and Sansom Sts., Philadelphia 3.

Mar. 4-6, Birmingham, Ala.
Twelfth Annual Southern Safety Conference and Exposition. (Tutwiler Hotel). Braxton B. Carr, executive secretary, Southern Safety Conference, 2120 First Ave. North, Birmingham 3, Ala.

Mar. 19-20, Boston
Thirtieth Annual Safety Conference and Exposition. Edgar F. Copell, president, Massachusetts Safety Council, 31 State St., Boston 9, Mass.

Apr. 3-6, New York
Twenty-first Annual Greater New York Safety Convention and Exposition. (Hotel Statler). Paul F. Stricker, executive vice-president, Greater New York Safety Council, 60 E. 42nd St., New York 17.

Apr. 10-12, Columbus, O.
Twenty-first All Ohio Safety Congress and Exhibit. (Neil House). James H. Fluker, Superintendent, Division of Safety and Hygiene, Industrial Commission of Ohio, Columbus 15, Ohio.

Apr. 18-20, Tulsa, Okla.
Annual Statewide Safety Conference. (Mayo Hotel). Glenn V. Carmichael, manager, Oklahoma State Safety Council, Oklahoma City, Okla.

Apr. 19-20, Louisville, Ky.
Annual Kentucky State-wide Safety Conference. (Kentucky Hotel). Estel Hack, managing director, Louisville Safety Council, 214 Speed Bldg., Louisville, Ky.

April 19-21, Kansas City, Mo.
Central States Safety Congress. George M. Burns, director, Kansas City Safety Council, 419 Dwight Bldg., Kansas City 6, Mo.

Apr. 23-24, Toronto, Ont.
Industrial Accident Prevention Associations, Annual Convention. (Royal York Hotel). R. G. D. Anderson, general manager, IAPA, 600 Bay St., Toronto 2, Ont.

Apr. 23-26, Pittsburgh, Pa.
Twenty-sixth Annual Western Pennsylvania Safety Conference and Exhibit. (William Penn Hotel). Harry H. Brainerd, executive manager, Western Pennsylvania Safety Council, 605 Park Bldg., Pittsburgh 22, Pa.

Apr. 26, New Haven, Conn.
Connecticut Safety Society, Annual Conference. Donald H. Ackley, c/o G and O Manufacturing Co., New Haven, Conn. P.O. Box 1860.

May 9, Bethlehem, Pa.
Twenty-fourth Annual Eastern Pennsylvania Safety Conference. Harry C. Woods, executive secretary, Lehigh Valley Safety Council, 602 East Third St., Bethlehem, Pa.

May 14-16, Syracuse, N. Y.
Central New York Safety Conference and Exposition. (Hotel Syracuse). Walter L. Fox, executive secretary, Safety Division, Syracuse Chamber of Commerce, 351 S. Warren St., Syracuse, N. Y.

May 16-18, Winston-Salem, N. C.
Twenty-first Annual North Carolina Statewide Industrial Safety Conference. (Robert E. Lee Hotel.) H. S. Baucom, safety director, North Carolina Industral Commission, Raleigh, N. C.

May 17-18, Duluth, Minn.
Twenty-seventh Annual Conference, Lake Superior Mines Safety Council. (Hotel Duluth). John A. Johnson, chief, Accident Prevention and Health Division, Region V, U. S. Bureau of Mines, 18 Federal Bldg., Duluth, 2, Minn.

June 4-7, Chicago
Twenty-eighth Annual Midwest Safety Conference. (Congress Hotel). Joseph F. Stech, manager, Greater Chicago Safety Council, 10 N. Clark St., Chicago 2.

June 21-23, Salt Lake City
Thirteenth Annual Western States Safety Conference. Marion A. Snow, executive director, Utah Safety Council, State Capitol Bldg., Salt Lake City, Utah.

Oct. 8-12, Chicago
Thirty-ninth National Safety Congress and Exposition. (Stevens Hotel). R. L. Forney, general secretary, National Safety Council, 425 N. Michigan Ave., Chicago 11.

Green Cross News . . .

Activities of Local Safety Councils and Chapters

Council Representatives

The three safety council representatives on the National Safety Council Board of Directors for the ensuing year are J. James Ashton, manager of the Delaware Safety Council, Wilmington; Walter D. Ladd, manager, St. Joseph Safety Council, St. Joseph, Mo.; and R. Brandon Marshall, managing director, Denver Chapter NSC. Kenneth B. Colman, Seattle business leader, was re-elected chairman of the Conference of Local Safety Organizations and Dr. B. L. Corbett of Milwaukee was re-elected vice chairman. The three council representatives on the Board were originally chosen by vote of the Conference and were recommended to Board membership by the NSC nominating committee.

Cleveland Series

The annual series of Industrial Safety Meetings sponsored by the Greater Cleveland Safety Council in cooperation with the Division of Safety and Hygiene, the Industrial Commission of Ohio, and Northern Ohio Chapter ASSE, started on Monday, September 18, with Walter A. Cutter of the Center for Safety Education, New York University, as the keynote speaker.

The Cleveland Council is following the same plan as last year in booking top management speakers as well as inspirational participants. Six sessions will be held, one each month, with the closing meeting on April 16, 1951. Management speakers include James L. Myers, president, The Cleveland Graphite Bronze Company; James E. Trainer, director and vice-president in charge of production, The Firestone Tire & Rubber Company, Akron; Warren H. Chase, assistant vice-president for operations, The Ohio Bell Telephone Company, Cleveland; Sherman Rogers, head of Sherman Rogers Publications, Cleveland; E. B. McConnell, vice-president, Manufacturing Department, The Standard Oil Company, Ohio; James F. Lincoln, president, The Lincoln Electric Company, Cleveland; and G. Metzman, president, New York Central System, New York.

Nurses' Section

The Los Angeles Chapter, NSC, announces the organization of an Industrial Nurses' Division. The new group held its first meeting on October 5 and approximately 200 industrial nurses attended. Jack F. Hatton, chief of Medical and Safety Department, Lockheed Airplane Company, was the guest speaker.

"Danger Between Times"

The National Association of Real Estate Boards recently threw the spotlight on an important phase of accident prevention that is often overlooked, the need for frequent inspection and prompt correction of hazards in buildings. G. O. Oslund of the Oslund Realty Co., Chicago, writing in "Headlines," official publication of the Association, suggests that every Mayor issue a kick-off proclamation, ordering the immediate inspection of all buildings, not as an official inspection, but as the first of a series of volunteer checks by owners, tenants, building engineers and janitors, each inspection to be followed by prompt correction of hazards. He suggested that at least once each year a "Building Inspection Day" be set aside to supplement the periodic checks made by official building inspectors. Oslund points out that hazards often develop between periodic official visits that could be found and corrected by persons directly connected with the property. Local council managers will be interested in this plan.

Shop Safety Awards

Twenty-nine San Francisco public schools recently were presented awards of merit for improved shop safety records during the 1949-50 school year. The awards were presented at the civic auditorium by the San Francisco Chapter, NSC, for "outstanding achievement in school shop safety." Iver Larson, manager of the Chapter, in presenting the awards, lauded individual shop instructors for their "sincere desire to promote a continuing and lasting program of preventive safety education."

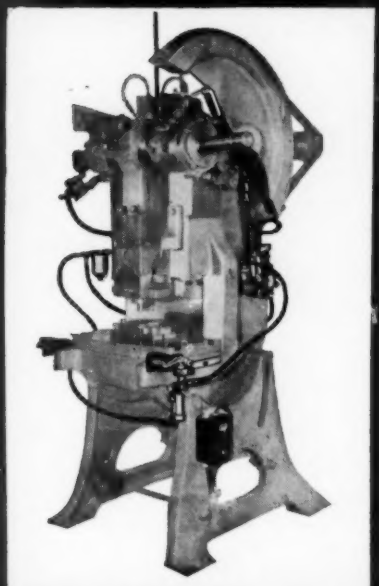
Human Factors

At a joint meeting of the Monroe County Medical Association, the Rochester Safety Council and the Council of Social Agencies held at Rochester three subjects of special interest were discussed, "Drugs as a Factor in Accidents;" "Medical Aspects of Accident Prevention;" and "Toxic Chemicals in Homes and on Farms." In his discussion of "Drugs as a Factor in Accidents" Dr. Carl W. Brimmer, medical officer of the Division of Medicine, Federal Security Agency, made this pertinent observation.

"There is one thing of which we may be reasonably sure and that

—*To page 103*

Years of *SAFETY* for Minutes of Thought



Schrader Pneumatic Two-Handed Press Control. This device converts continuous action clutches to single action. Easily and quickly installed on most types of power presses.

NOTE: Foot operated controls and combinations of hand and foot operated controls are also available.

SCHRADER TWO-HANDED PNEUMATIC POWER PRESS CONTROLS are standard in shops all over the country. They increase safety in two ways: 1. They are true *two-handed* devices; both hands must be used to operate the press and operator cannot defeat purpose of control by tying down one lever. 2. They are so easy to operate they reduce fatigue, regarded as one of the leading causes of accidents.

SCHRADER CONTROLS PAY THEIR COST MANY TIMES OVER

SCHRADER CONTROLS are low in first cost and, unlike many protective devices, on the job every minute. Wherever used they reduce operator fatigue and the fear of accidents. This means better morale and increased production . . . especially on the fag end of the shift. Don't wait for an accident to remind you to buy SCHRADER POWER PRESS CONTROLS when you can save money, reduce accidents and increase production every day through their use. A few minutes thought now may give you years of safety. Write today for information and free literature.

ALWAYS SPECIFY SCHRADER, THE COMPLETE LINE OF AIR CONTROL PRODUCTS

Schrader
PRODUCTS
CONTROL THE AIR

MAIL THIS COUPON TODAY

A. Schrader's Son, 480 Vanderbilt Ave., Brooklyn 17, N.Y.
Division of Scovill Manufacturing Company, Incorporated

Please send me information and free literature about the products I have checked in the boxes at the right.

NAME _____

COMPANY _____

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- Air Cylinders ☐
- Operating Valves ☐
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- Air Ejection Sets ☐
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- Air Line Couplers ☐
- Air Hose & Fittings ☐
- Hose Reels ☐
- Hydraulic Gauges ☐
- Pressure Regulators & Oilers ☐
- Air Strainers ☐
- Uniflare Tube Fittings ☐

GENERAL CHAIRMEN NSC SECTIONS

Elected at 38th National Safety Congress

AERONAUTICAL INDUSTRIES
Col. W. L. Tubbs, Assistant for Ground Safety, DCS/P, H.Q. U.S. Air Force, Washington, D. C.

AIR TRANSPORT
E. T. Lee, director of Safety, Eastern Air Lines, Inc., Miami, Fla.

AUTOMOTIVE AND MACHINE SHOP
George F. Nuernberger, safety engineer, A. B. Dick Co., Chicago.

CEMENT AND QUARRY
Lea P. Warner, personnel and safety manager, Warner Co., Philadelphia.

CHEMICAL
R. H. Albisser, Merck & Co., Inc., Rahway, N. J.

COAL MINING
Arthur Bradbury, safety director, Inland Steel Co., Wheelwright, Ky.

COMMERCIAL VEHICLE
C. D. Calkins, director of safety, Pacific Motor Trucking Co., San Francisco.

CONSTRUCTION
Harry J. Kirk, safety director, Associated General Contractors of America, Washington, D. C.

ELECTRICAL EQUIPMENT
M. F. Biancardi, manager, Health and Safety Department, Allis-Chalmers Manufacturing Co., Milwaukee, Wis.

FOOD
Howard T. Bond, personnel and safety manager, The South Coast Corp., New Orelans, La.

GLASS AND CERAMICS
James L. Morris, personnel manager, The Federal Glass Co., Columbus, Ohio.

INDUSTRIAL NURSING
Mrs. Joan M. Timke, R. N., American Medical Association, Chicago.

MARINE
L. R. Sanford, executive vice-president, Shipbuilders Council of America, New York.

MEAT PACKING, TANNING & LEATHER
John N. Russo, safety director, Allied Kid Co., Wilmington, Del.

METALS
Paul E. Grundman, safety engineer, Armco Steel Corp., Baltimore, Md.

MINING
George Gerry, district safety supervisor, Pickands Mather & Co., Ironwood, Mich.

PETROLEUM
W. O. Wilson, manager of safety, Standard Oil Co. (Ind.), Chicago.

POWER PRESS & FORGING
Stewart T. Cooper, safety director, Whirlpool Corp., St. Joseph, Mich.

PRINTING & PUBLISHING
G. Stuart Mansfield, safety director, Western Printing and Lithographing Co., Poughkeepsie, N. Y.

PUBLIC UTILITIES
Earle S. Hannaford, supervisor employment and training, Long Lines Department, American Telephone & Telegraph Co., New York.

PULP & PAPER
C. L. R. Dougherty, assistant manager of industrial relations, Union Bag & Paper Co., Savannah, Ga.

RAILROAD
J. R. Thexton, superintendent of safety, The Delaware, Lackawanna & Western Railroad Co., Hoboken, N. J.

RUBBER
Stanley Wright, supervisor of safety, Inland Manufacturing Div., General Motors Corp., Dayton, Ohio.

TEXTILE
C. J. Hyslup, director of safety, Chatham Manufacturing Co., Elkin, N. C.

TRANSIT
M. G. Bullock, supervising engineer, Transit Casualty Co., St. Louis, Mo.

WOOD PRODUCTS
Willard C. Bottoms, personnel manager, Farley and Loetscher Manufacturing Co., Dubuque, Ia.

Drawings Liven Up "Do's and Dont's"

An employee manual can be humorous yet dignified and good line drawings break up the monotony of a series of do's and dont's as well as the monotony of a printed page. In both American and British industry mild humor is used extensively in the safety and industrial relations programs.

The accompanying sketches are from *Industrial Welfare*, published by the Industrial Welfare Society, London. The cartoons are by Tom Atkins, personnel relations officer for Crompton Parkinson, Ltd., to illustrate an article on "Illustrating Works Handbooks," by Gordon Bevan, adviser for the Society.

TA.

" We don't want to throw cold water over you, but the rule is ' NO SMOKING IN PROHIBITED AREAS.' "

"People who have no strong love of reading do not take any more kindly to reading works rules than to reading Shakespeare," Mr. Bevan points out. "Nor can we expect people who lack a live interest in the subject matter (and new employees can rarely be expected to show enthusiasm for yet another set of regulations) to comprehend and remember what little they can be persuaded to read.

"On the other hand, there is a lot of evidence for the fact that

" Every accident, however slight, should be reported immediately."

people are interested in pictorial presentations of ideas. From comic cuts to the national illustrated dailies and weeklies with their cartoon strips, photographs and live layout, we see the effect of illustration on the interest of the occasional reader."

In the accompanying examples of Mr. Atkins' drawings, the captions are quoted directly from the text. This is preferable to independent captions as it ties in the drawing with the text and gives double emphasis to the point illustrated.

For the "No Smoking" cartoon, the artist recalled a story of Sir Walter Raleigh who is reputed to have introduced tobacco in England. Sir Walter's servant, seeing his master smoke for the first time, thought he was on fire and threw a bucket of water over him.

MODEL 7703
Full Neoprene coated, 14½" gauntlet. Special thumb crotch reinforcement. Liquid proof, curved fingers . . . for all general industry.

INDUSTRY INSURANCE?

HOOD

gloves are a SAFE policy!

Yes, over and above your present insurance program for employee protection, be sure of the added insurance provided for protection to employees' *vital* hands with Hood Industrial Gloves!

Shown above are two of the many types of Hood gloves that have shown the way for years to safer protection against chemicals, oils, acids, caustics, corrosives and abrasives in every line of industry and manufacture.

Let this leadership give you this added insurance . . . insurance that benefits *both* your employees *and* your business. Our catalog shows the Hood line of Neoprene, Rubber or Plastic coated gloves for *every* job in *all* industries.

MODEL 4703
Full Neoprene coated, knit wrist style used in all general industry. Liquid proof, curved fingers, no seams on working surface.

HOOD
for NEW Safety PLUS

HOOD RUBBER CO.
Watertown, Mass.

STOP INDUSTRIAL DERMATITIS!

Now . . . a simple control . . . at lower cost

DID YOU KNOW that skin affection is the cause of 65% of all industrial health ailments? Medical research has recently revealed this amazing fact, and has proved that most of this infection results from bacteria on the skin. You can check this cause of industrial absenteeism quickly and economically by using Powdered Germa-Medica with Hexachlorophene (G-11). This powerful new hand soap stops much skin infection and many communicable diseases at the source by drastically reducing the germ-causing bacteria on the skin. Try it. Protect the health of your workers and realize important new savings through reduced absenteeism.

NEW MEDICATED POWDERED SOAP

Powdered Germa-Medica is used like any ordinary powdered soap, yet it gets the germs as well as the dirt. Economical—write for free sample.

HUNTINGTON LABORATORIES, INC. • HUNTINGTON, INDIANA • TORONTO

HUNTINGTON

Powdered Germa-Medica®
WITH HEXACHLOROPHENE (G-11)

Personals

Yant Heads ASSE

DR. WILLIAM P. YANT, director of research and development for Mine Safety Appliances Company, Pittsburgh, was elected president for 1950-1951 of the American Society of Safety Engineers at the Annual Meeting held in conjunction with the 38th National Safety Congress.

Dr. William P. Yant

A graduate of Wooster College, Wooster, Ohio, Dr. Yant has been with MSA since 1936. He formerly was supervising engineer of the Pittsburgh Experiment Station, U. S. Bureau of Mines.

Dr. Yant, a member of many technical societies, was the first president of the American Industrial Hygiene Foundation and is now a trustee of that group. In 1947, he received the association's award for outstanding service in industrial hygiene. Earlier this year, he was named chairman of the steering committee for the President's U. S. Technical Conference to study air pollution.

For the past three years, he has been chairman of the Research Committee of President Truman's Conference on Industrial Safety. He is a director of the National Safety Council and vice chairman of that organization's Industrial Conference.

In 1946, Dr. Yant received the Pittsburgh Award of the American Chemical Society for distinguished service to chemistry. He was honored with a doctor of science degree in chemistry at Wooster College in 1942 and in the same year was selected by the National Research Council to fulfill a request from the British Government to observe industrial practices in that country.

The author of many technical papers and other literature, Dr. Yant also holds 33 patents in his own name.

Other officers elected are:

First Vice-President — J. C. Stennett, director of safety engineering, National Association of Mutual Casualty Companies, Chicago.

Second Vice-President—C. H. Weiser, plant personnel supervisor, Southwestern Bell Telephone Co., Kansas City, Mo.

Executive Secretary — A. D. Caddell, Chicago.

Treasurer — J. L. Ridinger, safety director, Inland Steel Company, Chicago.

The following members-at-large were elected to the Executive Committee for three-year terms ending 1953:

W. F. Brown, safety engineer, Consolidated Edison Company of New York, New York.

G. E. Lewis, safety engineer, Portland Gas & Coke Company, Portland, Ore.

E. B. Landry, safety director, U. S. Post Office Department, Washington, D. C.

I. C. Yates, safety director, Alabama Drydock and Shipbuilding Company, Mobile, Ala., was elected to fill a vacancy in the office of member-at-large, term ending 1952.

Ladder Inst. Officers

H. G. ARNOLD, Bauer Manufacturing Co., Wooster, Ohio, was elected president of the American Ladder Institute at a recent meeting in Chicago.

Other officers elected are: Vice-president, H. S. Bradley, W. W. Babcock Co., Bath, N. Y.; Secretary, L. C. Watling, Woodenware Products Co., St. Louis, Mo. Elected to the board of trustees was Howard B. Rich, Rich Ladder & Manufacturing Co., Carrollton, Ky.

For the past two years the Institute has been working closely with the American Standards Association, the Federal Government, and the Forest Products Laboratory in the development of standards for ladder construction.

Harold Miner Retires

HAROLD L. MINER, nationally known in the field of industrial safety and fire protection, retired October 31 from the Du Pont Company where he has directed these activities for more than 25 years. Mr. Miner plans to continue in the work with which he has been associated for 46 years.

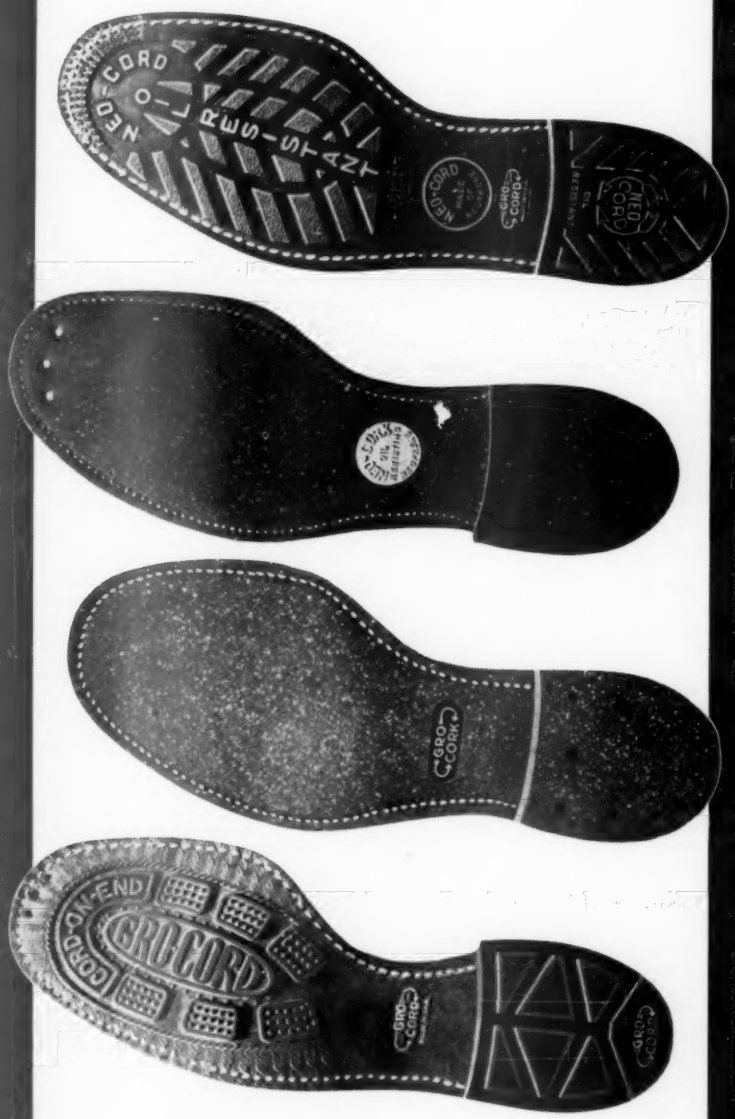
Mr. Miner was born in West Hartford, Conn., in 1885, and attended schools and college in his native state. In 1904 he became associated with the National Fire Protection Association as clerk to the Special Hazards Committee and assistant editor of the NFPA *Quarterly*.

Harold L. Miner

From 1906 to 1915 he was engaged in fire insurance engineering and fire protection and safety inspection work in New York and

non-slip

That word tells the complete story of how to reduce accidents. All four soles shown below give the wearer excellent protection from slipping. It is to your advantage to see that shoes with these soles are available for the men in your plant. Reports prove that accidents caused by slipping decrease rapidly wherever these soles are used.



NEO CORK SOLES

Cork and Neoprene. An outstanding safety sole in either brown or black. Resists oil, gasoline, grease, acids, caustics. All weather protection. Cushions the foot against hard, bumpy surfaces. Long wearing.

NEO CORD SOLES

Cord and Neoprene. This sole is resistant to oil, grease, gasoline, acids, caustics, and heat. For more than 10 years Neo-Cord soles have provided non-slip footing. Imitations are complimentary but not as SAFE.

GRO CORK SOLES

A light weight but tough cork sole. Comfortable to stand or walk on. Won't pick up metal chips. Protects the feet from heat and cold. Non-marking . . . long wearing.

TRADE GRO CORD MARK
CORD-ON-END

The sole with the original cord-on-end construction. This sole is waterproof and will take the toughest going for a longer time. Gro-Cord, cord-on-end soles will outwear at least two leather soles, and keep their non-slip qualities to the very last.

GRO-CORD RUBBER CO., LIMA, OHIO

Canadian Plant

GRO-CORD RUBBER CO., OF CANADA LTD. TILLSONBURG, ONT.

Philadelphia. In 1915 he became associated with Du Pont as a fire protection consultant. Beginning in 1916 and during World War I he managed the Du Pont Engineering Department's fire prevention division which was organized as a result of the heavy war construction program.

In 1919 the fire protection division was transferred to the Service Department. Mr. Miner continued as manager and in 1926 he headed a new division which combined all company safety and fire protection activities.

Under his direction, many Du Pont interplant safety contests were initiated and carried on. These contests have contributed to the company-wide safety record which has been recognized by many trophies awarded in National Safety Council contests and the winning of the Council's Award of Honor for Distinguished Service to Safety eight times.

Mr. Miner has been a director of the National Safety Council since 1934 and was vice-president for homes and farms, 1943-44. He is a member of the American Society of Mechanical Engineers, the American Society of Safety Engineers, the International Association of Fire Chiefs, and is a charter member of the Army Ordnance Association.

He was also a member of the War Department Advisory Committee on Fire Protection, and the Secretary of Labor's Advisory Committee on Safety and Health Requirements. He is a past president of the National Fire Protection Association and in 1949 was elected to honorary life membership.

Mr. Miner is co-author of the chapter on "Safety and Fire Protection" in the *Chemical Engineers Handbook* and was a member of the editorial board and a contributor to the Crosby-Fiske-Forster *Handbook of Fire Protection.*

He has been active for many years in the American Standards Association and is chairman of its Safety Codes Correlating Committee and a member of several other technical committees. Other groups in which he has been prominent include the Manufacturing Chemists Association; the National Paint, Varnish and Lacquer Association; the National Fire Waste Council of the United States Chamber of Commerce, and the President's Conference for Industrial Safety.

Heads Du Pont Safety Organization

J. SHARP QUEENER has been named to succeed Harold L. Miner, whose retirement as manager of the Du Pont Company's safety and fire protection division was announced October 31.

Mr. Queener, who served for nearly two years as general assistant manager of the division, has been with Du Pont since 1929, when he was employed as a student operator at the Old Hickory, Tenn., rayon plant. After two years of supervisory work in operation, he was transferred to employment work at Old Hickory, becoming employment supervisor in 1934.

In 1940 he was sent to Memphis, Tenn., where the Du Pont Company was building a smokeless powder plant for the British Government. After supervising employment there for several months, he was transferred to the Indiana Ordnance Works as service superintendent, and from there to the Wabash River and the Gopher Ordnance Works.

In 1942, Mr. Queener went to Washington as assistant manager of Du Pont's personnel division in the Service Department. In February, 1949, he was transferred to the safety and fire protection division as general assistant manager.

Mr. Queener, a native of Nashville, Tenn., was graduated from the University of Tennessee in 1929 with the degree of bachelor of science in civil engineering. He and his wife, the former Lois Kenny, of Atlanta, Ga., live at 205 South Road, Lindamere, Wilmington, with their son and daughter.

NSC Staff Changes

H. GENE MILLER has been named director of the National Safety Council's Statistics Division to succeed WILLIAM C. JAMES who has resigned to become associated with the National Office of Vital Statistics as consultant to the Latin-American countries.

Mr. Miller has been on the staff of the division since his discharge from the Army in 1945.

Mr. Miller is a graduate of the University of Missouri with a B.A. degree in business administration and an M.A. degree in statistics. Before the war he was chief of research and planning for the Safety Branch, Corps of Engineers.

Mr. James is scheduled to be stationed in Santiago, Chile, before returning to Washington for indoctrination in the Inter-American Vital Statistics Cooperation Program.

Mr. James came to the Council from the Portland Cement Association in September, 1942, and the following year was appointed director of the Statistics Division. While with the Council he was also on the faculty of Illinois Institute of Technology as instructor in mathematics.

DR. ALEXANDER F. ROBERTSON, a specialist in fluid mechanics and combustion phenomena, has been appointed to the staff of the Fire Protection Section of the National Bureau of Standards. Dr. Robertson will conduct research on the effects of damage caused by flames and high temperatures on structures and structural materials and on the improvement of fire-resistant qualities.

Dr. Robertson is a graduate of the University of Wisconsin, re-

ceiving the B.S. degree in 1935 and the Ph.D. degree in 1940. From 1947 to 1950, he was head of the physics division of the Institute of Textile Technology. Previously he was on the staffs of the Battelle Memorial Institute and during the war of the Naval Ordnance Laboratory where he conducted research on explosives, the design of special instruments, and methods for evaluation of weapons.

Ten Safety Awards Won By Kaiser Quarry

The national safety spotlight shone on the Salinas, Calif., area last month when workers at Kaiser Aluminum & Chemical Corporation's dolomite plant and quarry at Natividad were presented with 10 national safety awards.

The men won the honors by working through 1949 and the first six months of 1950 without a disabling injury. Award presentations were made at a special banquet honoring the men's achievements.

Safety awards won during 1949 were:

1. Perfect Record Trophy . . . National Lime Association.
2. Joseph A. Holmes Award . . . U. S. Bureau of Mines.
3. Sentinels of Safety Award . . . U. S. Bureau of Mines.
4. Perfect Record Trophy . . . National Safety Council.
5. First Place . . . National Safety Council (East Bay Chapter, Chemicals and Minerals section).
6. First Place . . . National Safety Council (East Bay Chapter, Miscellaneous section).
7. First Place . . . National Safety Council (East Bay Chapter, Fleet Safety Contest, Construction section).
8. Kaiser Cup . . . Awarded annually by the Kaiser Aluminum & Chemical Corporation to its industrial operation with the best safety record.

The two awards won during the first half of 1950 were:

9. Major Award . . . National Safety Council (East Bay Chapter, Fleet Safety Contest, 100,000-500,000-mile class).
10. First Place . . . National Safety Council (East Bay Chapter, Fleet Safety Contest, Construction section, for period January 1 through June 30).

The Natividad dolomite operations are under the management of Walt Adams and the general supervision of D. M. Kerr. Safety superintendent is L. R. Flicker.

The Safety Library

Books, Pamphlets and Periodicals of Interest to Safety Men

Eyes in Industry

Eyes and Industry, formerly *Industrial Ophthalmology*. By Hedwig S. Kuhn, M.D. Published by the C. V. Mosby Company, St. Louis. 1950. 378 pages. Price $8.50.

While this book is advertised as the second edition of Industrial Ophathalmology it is a completely rewritten job to the extent that it could equally well have been considered to be an entirely new project.

As Dr. Albert C. Snell points out in his foreword to the present edition Dr. Kuhn is uniquely qualified to write on the subject of industrial ophthalmology by her keen interest and years of experience in many of the problems of industrial ophthalmology and also because of her location in the center of a very densely industrialized area, where she has been consultant to many large and small industries.

What he does not point out is that, in addition to these qualifications, her intensely practical approach to the problems involved and the wealth of specific practical examples which she uses to illustrate her points make the book as easily readable and as understandable for the safety engineer, manager or industrial hygienist as it is for the practicing ophthalmologist.

While the ophthalmologist may use it as a guide to his practice in industry it will probably be of at least equal value to the managements of industrial plants as a guide to what they should expect from their eye protection—eye correction programs and what they must expect to put into them if they are to derive the maximum benefits.

It can be recommended highly as a practical book, well enough written to be read like a novel and supplied with enough facts and statistics to supply the answers which you will need.

F. A. Van Atta

BOOKS AND PAMPHLETS

Guards

Safety of Machine Tools and Other Plants. No. 1. Drilling Machines, Fencing Spindles Chucks and Tools. Published by British Ministry of Labour and National Service 1950. 16 p. Available from British Information Service, 30 Rockefeller Plaza, New York 20. Price 15¢. (Form 291)

Mines

Safety in the Mining Industry. By D. Harrington and others. Published by the U. S. Bureau of Mines, 1950. 102 p. For sale by the Superintendent of Documents, Washington 25, D. C. Price 40¢. (Bureau of Mines Bulletin 481)

Radiation

Control of Radiation Hazards in the Atomic Energy Program. Published by U. S. Atomic Energy Commission. 1950. 230 p. For sale by the Superintendent of Documents, Washington 25, D. C. Price 55¢.

Woodworking

Woodworking Circular Saws—Protection for Variety and Universal Types. Published by National Association of Mutual Casualty Companies, 919 North Michigan Ave., Chicago 11, Illinois, 1950. 29 p. Free.

MAGAZINE ARTICLES

Employee Meetings

Make Safety Meetings Work for You. By Fred W. Eberle. (In Woodworking Digest, Oct. 1950, p. 93.)

Fire Protection

Portland Firefighters Prepare for Radiological Hazards. By Capt. Jack Lowe. (In Fire Engineering, Sept. 1950, p. 742.)

Handling Materials

We're Serious about Safe Handling. (In Modern Materials Handling, Oct. 1950, p. 21.)

Health

Solving the Solvent Problem. By Dr. Robert A. Kehoe. (In Standardization, Oct. 1950, p. 262.)

Inspection

Penetrant Inspection of Metals. By Fred M. Burt. (In Pacific Factory, Oct. 1950, p. 27.)

Labor Unions

Labor-Management Cooperation for Safety: A Statement of Principles. (In Management Review, Oct. 1950, p. 610.)

Safety Provisions in Union Agreements, 1950. (In Monthly Labor Review, Sept. 1950, p. 342).

Mines

Anthracite Safety. (In Coal Age, Oct. 1950, p. 92.)

Safety Activities of U. S. Bureau of Mines, 1948-49. (In Monthly Labor Review, Sept. 1950, p. 346.)

National Defense

Burns in Atomic Warfare. By Dr. George F. Lull. (In Today's Health, Oct. 1950, p. 19.)

Paper Industry

How Safety Became a Habit at Marinette. By George Clossay, Jr. (In Paper Industry, Oct. 1950, p. 739.)

Paper Industry and Stream Pollution. By Thomas E. Brookover. (In Pulp and Paper Magazine of Canada, September 1950, p. 86.)

Work Injuries in Pulp and Paper Manufacturing. 1939-49. (In Monthly Labor Review, September 1950, p. 338.)

Public Utilities

108 Are Missing. By E. C. Hunt. (In Electrical Engineering, October 1950, p. 919.)

About the healthiest form of exercise in the world is walking around the block—you don't have to cross a street!

Safety Week Held In British Plant

A daily newspaper was an important part of the Safety Week program of Imperial Chemical Industries, Limited, Winnington, Cheshire, England. Editions of the *Daily Look-Out* were published Monday through Friday, October 2-6, and a final edition summing up the results of the program was issued the following Monday.

In the week's program Monday was Observation day; Tuesday, Rules day; Wednesday, Thinking day; Thursday, Protective Clothing day; and Friday, No Accident day.

There were daily broadcasts at the works throughout the week on the public address system and by loud speaker van. Talks were given by foremen to all employees.

Each copy of the *Daily Look-Out* carried a number and those holding the lucky numbers were entitled to worthwhile prizes. Other pools during the week were based on the safety records of the various teams.

Feature safety stories were published throughout the week and each issue was well illustrated.

During the week only 13 minor injuries occurred, none of which involved lost time or transfer to other work. On Friday, which had been designated as "No Accident Day," no accidents were recorded up to 5:15 p.m. when the Safety Week officially closed. At 6:30 a worker suffered a slight scald on his hand when lifting a lid off a trough.

Safe Workers Honored

Forty-six employees at the Orange, Texas, steel fabricating plant of U. S. Steel's Consolidated Western Steel Corporation who won distinction by being constantly on the job for five years without loss of time due to accident have been honored with safety awards by the plant. The group received the awards at a recent dinner given in their honor.

Additional awards also were presented to the Warehouse Department and the Maintenance Department for no disabling injuries during the past year.

Industrial Health

Abstracts of current literature on Industrial Hygiene, Medicine, and Nursing

By F. A. VAN ATTA, Industrial Department, NSC

Disinfecting Eating Utensils

Bactericidal Efficiency of Quarternary Ammonium Compounds by C. T. Butterfield, Elsie Wattie and C. W. Chambers. The Public Health Report 65: 1039-1056 (August 18, 1950).

In order to determine the suitability of some of the quaternary ammonium compounds for disinfection of eating and drinking utensils in public eating places a considerable number of preliminary experiments and 570 series of formal tests have been made of the bactericidal efficiency of 40 commercial preparations containing quaternary ammonium compounds of the bactericidal agent in ten different types of test waters.

During the preliminary work a test method was worked out using Escherichia coli as the test organism and a method of test modified from the one which has proved effective for the determination of the bactericidal effectiveness of chlorine and chloramines.

The waters used were distilled water buffered with phosphate buffer solutions at various pH ranges and tap waters from six Ohio towns representing a variety of different types of well supplies and Cincinnati water, which is treated Ohio River water.

The variations in pH of the distilled waters had a marked effect on the bactericidal efficiency of the quarternary ammonium compounds but increased in pH increased the rate of kill for some of the compounds and decreased the rate equally for other compounds so that no generalizations can be made.

The bactericidal efficiency was markedly affected by the type of tap water used. The amount of a quaternary ammonium compound of fair efficiency required to produce 100 per cent kill of the organisms in one minute varied from 15 p.p.m. in distilled water buffered at pH 8 to over 500 p.p.m. in Cincinnati tap water to which a trace of sodium borate had been added. For two of the well water supplies the concentration required was over 300 p.p.m.

The interfering materials in these waters are not known. Synthetic mixtures made up according to the published compositions did not have the same inhibiting effect as the natural waters.

Variations in temperature have a marked effect on the toxic action of these compounds. They are approximately five times as effective at 46 C than they are at 12 C, which were the limits of the temperature randge studied. The effect was about the same for all of the compounds.

The bactericidal efficiency is affected markedly by a number of materials which might be present in dishwashing mixtures. In particular, the efficiency was markedly reduced by the presence of small amounts of soap. The amount of Castile soap required to destroy the effectiveness of some of the compounds varied from 1 p.p.m. to 60 p.p.m.

The addition of a detergent to the quaternary ammonium compound had an enormous effect on its bactericidal effectiveness in the presence of some waters. In one instance the addition of a small amount of detergent reduced the bactericidal activity by a factor of 500.

About the only generalization which can be drawn is that these materials are effective germicides under certain conditions but that their activity is markedly affected by very small amounts of a variety of substances and they should be tested thoroughly under the actual conditions of use, particularly because there is no satisfactory test for determining the amount of them actually present at the end of the rinsing.

Company Health Plan

The Medical Department of the American Cast Iron Pipe Company, by D. O. Wright. The Archives of Industrial Hygiene and Occupational Medicine 2:267-269 (September, 1950).

The approximately 1,600 employees of the American Cast Iron Pipe Company are provided with a complete medical, surgical and dental service beginning with the first day of their employment. If they work for six months their families and dependents become eligible for the same service.

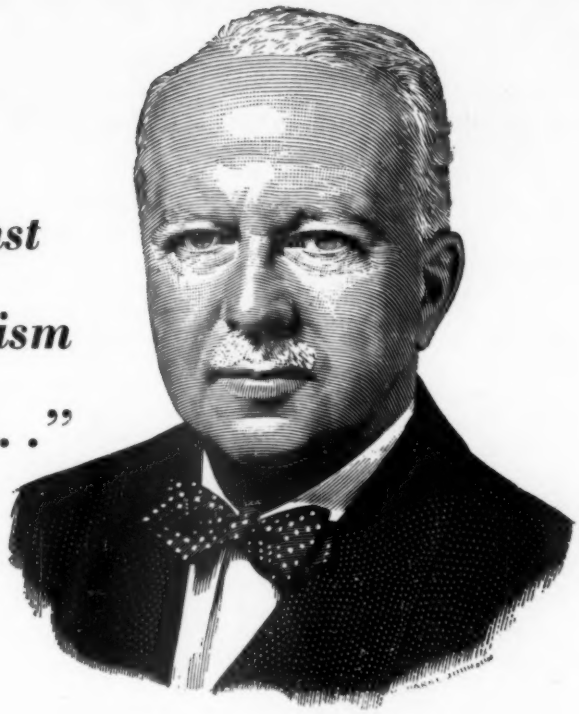
The services are provided by a medical staff consisting of a medical director and three full-time physicians. Additional personnel in the clinic are two dentists, 7 nurses, two medical and two dental technicians and miscellaneous employees.

To provide special services as needed the company retains the services of 14 part-time consulting specialists. These specialists are paid a regular monthly retainer and hold clinics and consultations at the plant at regular intervals. If hospitalization is required the individual is placed in one of the general hospitals of the community.

This service is part of the profit sharing plan of the company and all services for both the employee and his dependents are paid for by the company with the exception that the individual pays the difference between the ward rate and the private room rate if he wishes a private room in the hospital and the individual pays for spectacles if they are prescribed.

Although there is no cost to the employees for the medical services and the medical department is

"The immunizer against the disease of communism is a certain feeling . . ."



MR. WALTER S. GIFFORD

"It is the feeling of a man who owns a home, a bank account, an insurance policy. *It is the feeling that an employee on the Payroll Savings Plan has when he gazes at his accumulation of Savings Bonds and realizes that here is palpable evidence that he has made a profit on his job—that the profit system works for him as well as for his employer.*"

Mr. Gifford has believed in—and worked for—payroll savings plans for thirty-seven years—since 1913, when, as Statistician of the A. T. & T., Mr. Gifford developed a payroll savings plan for the purchase of A. T. & T. stock.

In 1938, A. T. & T. employees were offered a Payroll Savings Plan for the purchase of U. S. Savings Bonds. To date, Bell System employees have invested ***more than half a billion*** dollars in savings bonds—with a maturity value in excess of $675,000,000.

In upwards of 21,000 large companies, more than 8 million Americans are investing $150,000,000 in U. S. Savings Bonds ***every month.*** To the systematic saving of these men and women—and the whole-hearted co-operation of executives like Mr. Gifford—is due in no small measure the important feeling of ownership shared by the Americans who own 56 billion dollars in U. S. Savings Bonds (against 45 billions at the end of the war!).

Every Payroll Savings Plan is a reflection of the vision and enthusiasm of the top executive of the company. If he gets behind it, ***personally,*** employee participation is high—to the benefit of the country, the company and the employee. If the interest of the Big Boss is active—participation may very well exceed the 50% mark. The top man is the key man in a Payroll Savings Plan.

Get in touch with your State Director, Savings Bond Division, U. S. Treasury Department. He will help you put in a plan . . . or he will show you how to increase employee participation—without undue effort or high pressure tactics.

The U. S. Government does not pay for this advertising. The Treasury Department thanks, for their patriotic donation, the G. M. Basford Company and

NATIONAL SAFETY COUNCIL

governed entirely by the management a medical service committee consisting of employees and supervisors advises the management on medical department policies and practices.

Union Health Services

Union Plans by Leo Price, M.D. Archives of Industrial Hygiene and Occupational Medicine. 2:256-260 (September, 1950).

The International Ladies Garment Workers Union established a Union Health Center in 1913 primarily to combat the high incidence of tuberculosis in the industry. This center has operated for 37 years continuously and is growing. It was not strictly a unique organization in the beginning as mutual benefit societies in trade unions to provide for medical care were started as early as 1787 in the United States. It was, however, one of the early efforts to provide insurance against the expenses of illness.

The plan was originally financed wholly by the union members. Since 1945 it has been contributed to by the employers in the industry also.

This center provides preventive medicine and health maintenance on an ambulatory basis for about 200,000 members of the International Ladies Garment Workers Union in New York. The experience has been so favorable that the union has recently decided to establish centers in other areas. There are centers now in Philadelphia, Fall River, Boston and St. Louis and mobile health units in Pennsylvania, New York, Vermont and Massachusetts to provide health service in relatively thinly populated areas. New centers are being set up in Cleveland, Los Angeles, Minneapolis, Newark and Chicago.

There are relatively few other union plans which offer direct medical services. The St. Louis Labor Health Institute provides such service for a small group and there are a number of local unions in New York which have joined together in an insurance plan providing contract coverage for comprehensive medical services.

The International Ladies Garment Workers Union Health Center in New York has a staff of 175 physicians, 35 nurses, 40 technicians and five pharmacists to provide general medical, diagnostic and specialty facilities for essentially all of the health needs of the union members. Recently the services have been expanded to include regular miniature photo flurograms of the chest, psychiatric consultation for the patient who does need to be placed in an institution, a program of control of the chronic diseases and a pension program for aged members of the union who are retired for medical reasons.

Waste Gases

Disposal of Waste Gases by Marcus Sittenfield. Modern Sanitation, Vol. 2. No. 9, September, 1950, pages 24 through 27.

The problem of disposal of waste gases from industry is becoming continuously more important in the last few years partly because of the pressure to convert the waste products into saleable material and partly because of the public pressure to stop the venting of waste materials into the atmosphere. The oldest problem of this sort is the removal of smoke and fly ash from flue gases. For this purpose every type of dust removal equipment has been tried and a number of installations have been reasonably successful. Since the smoke particles are of the order of 0.01 to 10 microns the most successful means of their removal have been electrostatic precipitators and supersonic agglomerators followed by cyclones.

"What wise guy's been monkeying with this temperature recorder? (Courtesy Wheelco Instruments Co.)

Small particles in this range can also be agglomerated in many cases by scrubbing in spray towers, water jet scrubbers or venturi scrubbers. When the particles have been agglomerated to sizes of 10 to 100 microns in diameter they are easily removed by cyclone separators.

The removal of gases and vapors with liquid or solid absorbents is theoretically rather simple but requires a considerable amount of engineering to get equipment which will operate both effectively and economically.

In some instances the recovered material will pay the cost of operation of the recovery equipment, particularly in the instance of solvent recovery or recovery of finely divided fuels or raw materials, but in general the cost of recovery of waste material from the air is an expense which must be added to the manufacturing cost of the product and which must consequently be kept as low as is feasible by careful engineering.

Association Program Cuts Brewery Accidents

An industry-wide safety program in the brewing industry has been credited with cutting the industry's accident rate to an all-time low during the first six months of 1950.

The industry's average number of work injuries for each million employee-hours dropped from the 1949 figure of 28.4 to 21.6 for the first half of this year, it was announced by Edward V. Lahey, president of the United States Brewers Foundation. The figures are based on preliminary statistics covering 95 per cent of the brewing industry's production.

The industry improved its accident rate by 20 per cent between 1948 and 1949 as against an aver-

age of 12.8 per cent for all industry, according to Mr. Lahey.

The brewing industry was among those recently cited by the U. S. Bureau of Labor Statistics as showing a "marked decrease in their injury-frequency rates" between 1948 and 1949. The same government report showed that the brewing industry has experienced the second largest drop of any industry in accident rate since 1946.

The Foundation has developed an eight-point safety program for its members which is under the direction of W. Michael Aicher, director of employee relations. Guided by a safety committee representing member companies, the program includes the gathering and dissemination of statistics, monthly safety letters from the Foundation headquarters, development with manufacturers of special safety equipment for the industry and education through training films, contests and exhibits.

Announce Conference on Materials Handling

Materials handling, a phase of industry which now involves more than 25 per cent of production payrolls and a substantial proportion of on-the-job accidents, will receive extensive discussion at the Materials Handling Conference to be held at the International Amphitheatre, Chicago. The Conference will be held during three of the five days of the Fourth National Materials Handling Exposition, April 30 through May 4, 1951.

The Conference will be sponsored by the American Material Handling Society and the exposition by the Material Handling Institute.

The exposition, which in three years has grown to rank among the five largest industrial shows in the country, will add a huge outdoor arena to its exhibit space in order to permit demonstrations of yard handling equipment which are not possible indoors. Exhibits will cover six acres indoors and four outdoors.

Some people will give you a piece of their mind—no matter how little they have to spare.

Cathode Ray Tubes

(From page 29)

by quick cooling of the heated glass (usually on trolley equipment).

20. After tubes have been removed from the ovens of either type of equipment, there is still danger of implosion until the glass reaches room temperature. Since employees working in the vicinity are constantly exposed to flying glass, it is recommended that they wear such protective equipment as a full face shield and gloves and sleeves wherever practical. An implosion occurring inside an oven is not serious because the glass is entirely confined by the oven structure.

21. It is advisable to construct partitions around the loading and unloading ends of the automatic exhaust machines. Where single exhaust units are used, partitions should be constructed around the entire exhaust department, to provide protection to persons working outside the area.

Tube Implosion

22. *Implosion* is complete collapse of the glass, because of structural weakness or external force by impact. As the glass ruptures, it falls inward because of the vacuum. The sudden inrush of air displacing the vacuum exerts sufficient force to propel the shattered glass over a radius of *approximately* 20 feet.

23. It has been generally thought that television tubes are hazardous because they would implode at any time and without external cause. There was considerable anxiety among the tube and television manufacturers concerning the danger of tube implosion and exposure to accident. Opinion varied over the necessity of providing every person who might be near a television tube, or handle one, with face and eye protection.

24. A representative group of manufacturers, asked about their experience with tube implosions and the causes, reported that there is no unusual accident exposure *prior to exhausting operations.* Glass breakage from rough handling can be expected at any time but there is no possibility that glass will be forcibly propelled over a large area.

Handling

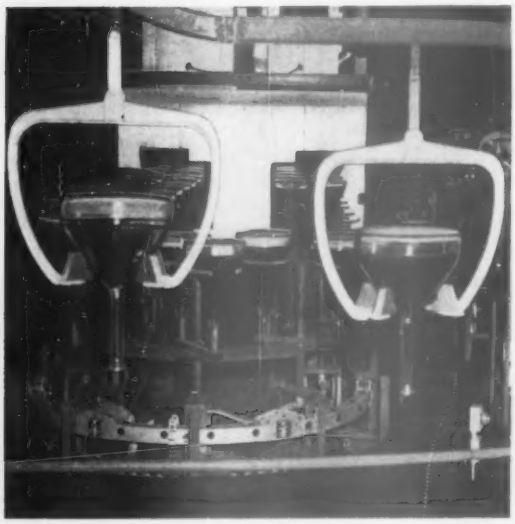
25. A tube will break if it is dropped, is struck by, or strikes against an object with sufficient force to rupture the glass. Handling methods vary and include the following: carrying by hand and transporting by trucks, conveyors (Figures 4 and 5), racks, or in cartons.

26. Employees who pick up tubes, load or unload trucks, tracks, conveyors, machines, and handle shipping cartons are most likely to cause damage to tubes by careless and unsafe handling, and should be carefully instructed in the following safe practice rules:

a. Many manufacturers have special trucks so that tubes can be handled while lying on their sides. However, where such trucks are not provided, tubes should not be laid on their sides on a flat surface such as a bench, but

Figure 4. Properly spaced holding yokes prevent tubes from striking against each other on overhead conveyor system.

Figure 5. Continuous belt conveyor with tube holding device.



placed vertically on their faces and on a soft pad of suitable material free of abrasives.

b. Do not pick up a tube by the neck. This is the weakest point and may break under the weight of the tube. Carry the tube with both hands firmly around the sides at its largest diameter.

c. Carry tubes in cartons or some form of protective covering, or on trucks and conveyors designed for such handling.

d. Do not drop or strike unpacked tubes.

27. Racks and trucks should be designed to hold tubes securely so that they will not move or shift while being stored or transported.

28. Overhead conveyors designed so that tubes cannot fall from the fixture or be struck by other objects provide the safest method of transporting tubes.

29. Handling or shipping cartons should be designed to provide full protection against impact and rough handling in transit.

Testing

30. The testing of cathode ray tubes with high voltage equipment presents an unusual electrical hazard. It is recommended that this work be done inside specially designed enclosures, to prevent employees from coming in contact with exposed electrical connections until power is shut off.*

31. The enclosure should have a protective, movable shield at the front, which can be raised for placement or removal of tubes. The power supply should be interlocked with the front shield, so that when it is opened, the electricity is automatically cut off and electrostatic charges stored in the glass envelope are discharged to ground.

32. Rubber mats, non-conductors of electricity, should be placed on the floor in front of all test positions to help prevent shock to testers.

Acid Fumes

33. To provide a good fluorescent screen, the internal surface of the cathode ray tube must be completely clean before the chemical processes are started. Employees either clean the tubes manually by pouring acids, caustics and water into them, or auto-

* See *National Electrical Safety Code*, Section 335, Guarding Current Carrying Parts.

matic and conveyorized washing machines perform the same function.

34. Hydrofluoric acid is used in the cleaning process, and in manual operations there is greater danger to employees from skin burns or from inhalation. There is less exposure when tubes are placed on the conveyor and carried into the automatic washer. This equipment is entirely enclosed so that there is no splashing of acids or caustics, and is provided with an exhaust system to remove fumes.

35. It is recommended that employees working at either operation and handling or using acids be required to wear full protective equipment, including full face and eye protection, rubber gloves, rubber aprons, rubber sleeves, and rubber shoes.

36. Good ventilation should be provided and full instructions given to employees in the safe practices in handling acids to control the fumes and to prevent splashing and skin burns. They should know the immediate first-aid measures necessary in the event of any acid coming in contact with the body, particularly the eyes. All persons working near or traveling through the area where hydrofluoric acid is stored, dispensed, or used should be required to wear at least full eye protection.

Dust Hazard

37. Most, if not all, the coating materials used on the screen of *direct view television picture tubes* are beryllium free so that there is no problem of exposure from beryllium phosphors. Although beryllium is considered an excellent material for developing fluorescent coating, at present it has been used only on small projection type tubes and the *hazard from exposure is thus minimized.*

38. Exposure to beryllium is serious whenever it is used. The danger is that cuts and scratches may retain some of the powdered coating material, which, if not completely removed, may delay healing and require surgical care.

Tube Disposal

39. The salvage method used by most manufacturers eliminates many of the hazards encountered in the disposal of unusable tubes. When the tube is beyond salvaging, the recommended practice is to provide a closed container vented to the outside and designed to confine the flying glass, and to break the tube with a rod insert or other device which can be operated with safety to the employee. The service man can place the old tube in a shipping carton properly sealed and then drive a rod through the closed top of the container.*

General Instructions

40. Television service men and laboratory personnel who may be handling cathode ray tubes are exposed to the same dangers of implosion by impact and electric shock as the workers in the manufacturing plant. They should exercise the same precautions in handling, transporting, and disposing of tubes as are recommended for the manufacturing operations.

41. When it is necessary to make internal adjustments or to remove a cathode ray tube, the current should be disconnected and the condensers discharged. A shock may cause the worker to drop the tube, resulting in an implosion.

X-ray Radiation

42. Authorities agree that the hazard of X-ray radiation is so remote that screening precautions are not considered necessary in even the higher voltage sets.**

* See National Safety Council Data Sheet D-Gen. 36, *Disposal of Fluorescent Lamps.*

** "Does Television Damage the Eyes," B. Rones, M.D., *The Sight-Saving Review*, 1949.

ACKNOWLEDGMENT

In an effort to secure authentic information for this data sheet, a questionnaire on operating experience was sent to tube and television manufacturing plants. J. M. Transue, security director, Philco Corporation, analyzed the returns and prepared a first draft. Subsequent drafts were written by Mr. Transue and by George MacDonald, staff representative, Electrical Equipment Section, National Safety Council. The sixth and final draft was reviewed by W. R. Ainley, chairman, Engineering Committee, Electrical Equipment Section, and by the Safe Practices Conference Committee, and was approved by the Industrial Conference of the Council. Illustrations were furnished by Philco Corporation.

Organize Society of Fire Protection Engineers

Organization of the Society of Fire Protection Engineers, a new, professional section of the National Fire Protection Association, is announced in the November issue of *Fire News*, the NFPA News Letter.

The object of the Society is to promote the professional standing of fire protection engineers. Qualifications for membership, dues and the functional activities will be on a par with other professional engineering organizations. Applications for membership will be carefully reviewed by a Qualifications Board. After election, applicants will receive a membership certificate, and the bulletins of the Society. Application blanks will be available soon at the NFPA offices at 60 Batterymarch Street, Boston 10, Mass.

Officers elected at the initial meeting in Boston on October 31 are:

President—John J. Ahern, director, Dept. of Fire Protection and Safety Engineering, Illinois Institute of Technology.

First Vice President — John A. Neale, chief engineer, National Board of Fire Underwriters.

Second Vice-President — Elmer F. Reske, Manager, Cook County Inspection Bureau.

Secretary—Robert S. Moulton, Technical Secretary, National Fire Protection Association.

Assistant Secretary—Richard E. Stevens, National Fire Protection Association.

The Executive Committee consists of the above officers and:

Allen L. Cobb, Safety Director, Kodak Park Works, Eastman Kodak Company.

Warren J. Baker, Chief Engineer, Insurance Company of North America.

Carl G. Richmond, Engineer, Boston Manufacturers Mutual Insurance Company.

W. G. Shultz, Chief Engineer, Lumbermen's Mutual Insurance Company.

Meetings of the society will be held in connection with the regular annual meeting of the NFPA and at other times as may be de-

termined by the membership. The next meeting of the Executive Committee will be held in January in New York.

Exposition Exhibitors

(From page 46)

American Optical Co.
American Safety Signal Corp.
Americana Corp.
Ampco Metal, Inc.
Anderson Products Co.
Ansul Chemical Co.
Arcadia Manufacturing Co.

Bashlin, W. M., Co.
Bausch & Lomb Optical Co.
Best, Alfred M., Co.
Brady, W. H., Co.
Brakemaster Corp.
Breck, John H., Inc.
Brown, Stewart R., Manufacturing Co.
Buhrke, R. H., Co.
Bullard, E. D., Co.

Canfield Oil Co.
Chance, A. B., Co.
Chicago Eye Shield Co.
Coca-Cola Bottling Co.
Columbus Glove Manufacturing Co.
Columbus-McKinnon Chain Corp.
C-O Two Fire Equipment Co.
Craft-Bilt Products Inc.
Cunningham, M. E., Co.

Davis Emergency Equipment Co.
Delaware Tool Steel Corp.
Diamond Match Co.
Diversey Corp.
Dockson Corp.
Dow-Corning Corp.
Dunn Products
Duo-Safety Ladder Corp.

Eagle-Picher Sales Co.
Edmont Manufacturing Co.
Elliott Service Co.
Embosograf Corp. of America
Emerson, J. H., Co.

Federal Interdepartmental Safety Council
Fendall Co.
Finnell System, Inc.
Franklin Research Co.

Gro-Cord Rubber Co.

Hamilton Stamping Co.
Hild Floor Machine Co.
Hillyard Sales Cos.
Hy-Test Divn., International Shoe Co.

Industrial Gloves Co.
Insto-Gas Corp.
Intoximeter Assn.
Iron Age Divn., H. Childs and Co., Inc.

Jamestown Safety Guard Corp.
Johnson, S. C. & Son, Inc.
Junkin Safety Appliance Co.
Justrite Manufacturing Co.

Karel First Aid Supply Co.
Kearney, James R., Corp.
Keystone View Co.
Kidde, Walter, and Co., Inc.
Kimball Safety Products Co.
Klein, Mathias, and Son

Laduby (Flur-O-Lock) Co., Inc.
Legge, Walter G., Co., Inc.
Lehigh Safety Shoe Co.
Lightfoot Schultz Co.
Lincoln-Schlueter Floor Machinery Co.
Louisville Metal Products Co.

Macwhyte Co.
Magline, Inc.
Magnaflux Corp.
Magno Saf-T Board
Marsh and McLennan, Inc.
Martindale Electric Co.
McAn, Thom, Safety Shoe Co.
McDermott, Julian A., Corp.
McDonald, B. F., Co.
Medical Supply Co.
Metropolitan Life Insurance Co.
Milburn Co.
Miller Equipment Co., Inc.
Mine Safety Appliances Co.
Minnesota Mining and Manufacturing Co.
Modern Glass Processing Co.
Multi-Clean Products, Inc.

National Safety Council
National Society for the Prevention of Blindness, Inc.
Normandy Chemical Corp.
Nulite Displays Co.

Occupational Hazards, Inc.
Oil-Dri Corp. of America
Onox, Inc.

Pac-Kit Co.
Packwood, G. H., Manufacturing Co.
Patent Scaffolding Co., Inc.
Porto-Clinic Instruments, Inc.
Positive Safety Manufacturing Co.
Protectoseal Co.
Pyrene Manufacturing Co.

R. C. S. Tool Sales Corp.
Racine Glove Co., Inc.
Randolph Laboratories, Inc.
Reece Wooden Sole Shoe Co.
Rockwood Sprinkler Co.
Rose Manufacturing Co.
Roto-Signal, Inc.

Safety Clothing and Equipment Co.
Safety Devices, Inc.
Safety First Products Co.
Safety First Shoe Co.
Safety Tower Ladder Co.
Salisbury, W. H., and Co.
Schrader's A., Son
Scott Aviation Corp.
Sellstrom Manufacturing Co.
Sentry Shoe Co.
Spencer Turbine Co.
Standard Safety Equipment Co.
Steel Scaffolding Co.
Stepan Chemical Co.
Stephenson Corp.
Stonehouse Signs, Inc.
Sugar Beet Products Co.
Surety Rubber Co.
Surty Manufacturing Co.

Taylor, S. C., Chain Co.
Tennant, G. H., Co.
Tool and Machinery Sales Co.
Treesdale Laboratories and Textile Processing Co.
Trinal, Inc.

Union Wire Rope Corp.
United States Safety Service Co.

Wallace Optical Co., Inc.
Watchemoket Optical Co., Inc.
Waverly Petroleum Products Co.
West Disinfecting Co.
Western Underwriters Assn.
Wheeler Protective Apparel, Inc.
Wilkins Co., Inc.
Williams Jewelry and Manufacturing Co.
Willson Products, Inc.

New Standard for Grounding Devices

A new American Standard for *Grounding-Type Attachment Plug Caps and Receptacles* (C73a-1950) has just been approved by the American Standards Association. This standard covers the essential elements for interchangeability of caps and receptacles for grounding the noncurrent-carrying metal parts of portable household appliances and devices. The standard was prepared to meet the provision in the National Electrical Code that requires at least one receptacle outlet of the three-pole type for the connection of laundry appliances in every dwelling occupancy. In places other than residential occupancies, the Code requires that exposed metal parts of portable appliances used in damp or wet locations or by persons standing on the ground or on a metal floor shall be grounded.

This new American Standard assures interchangeability of the plugs and receptacles designed for grounding purposes. In addition it provides that they must meet the safety requirements of the Underwriters' Laboratories 1948 Standard for Attachment Plugs and Receptacles.

The use of the new type of grounding cap, or plug, and receptacle described in this standard presupposes the use of a three-conductor cord. Ths standard provides that one of these three conductors be attached to the frame of the appliance. This is the "grounding conductor." It must have a green outer covering to identify it, according to the requirements of the National Electrical Code.

Judge: "Your age, madam?"
Lady witness: "Thirty years."
Judge: "You may have difficulty proving that."
Lady witness: "You will find it difficult to prove the contrary. The church that had the record of my birth burned down in 1900."

Civilization is a state of society in which the only people who speak about the future with any confidence are the fortune tellers.

What "Fireproof" Doesn't Mean

Seven hundred and sixty-four lives were lost and $25,000,000 property damage was caused in 32 fires in fire-resistive buildings since 1940, according to a recent study by the National Fire Protection Association's Department of Fire Record. Of the 764 fatalities, 35 occurred in manufacturing plants, 22 in warehouses, 32 in office buildings, 180 in hotels, 3 in a hangar and 492 in a night club.

The National Fire Protection Association has published the results of this study in pamphlet form to refute the all too common false belief that "fireproof" buildings are immune to serious fires. Emphasizing the major contribution made by fire-resistive construction toward life safety and reduction of property damage, the study points out that fire-resistive construction is only one of several features of design and protection that together make a building fire-safe.

Quoting from the pamphlet, "What does fire-resistive construction not do? It does not prevent fires—accomplished by a fire prevention program for employees. It does not detect fires—accomplished by trained watchmen, alert employees, and automatic detection equipment. It does not guarantee the safe evacuation of the occupants — accomplished by adequate exits for safe escape from any part of the building.

It does not limit fire spread—accomplished by fire divisions and fire partitions with all openings protected. It does not prevent vertical spread of fire—accomplished by enclosure of stairways, elevator shafts and other vertical openings. It does not prevent explosion damage — accomplished by facilities for explosion venting.

It does not prevent exposure from fire from involving the contents of a fire-resistive building—accomplished by fire doors, shutters, outside sprinklers, wired-glass windows and removal of serious exposure hazards; and fire-resistive construction does not extinguish fires—accomplished by automatic sprinklers, fire extinguishers, special fire extinguishing equipment and private and public fire departments."

ASKED and ANSWERED

Assistance with problems of accident prevention and industrial health is offered by National Safety Council. All inquiries are answered by mail and a few topics are selected for publication.

Fluorescent Tubes

Question: Is there a possibility of poisoning from the inside coating of fluorescent tubes when the tubes are broken?

Answer: There used to be a number of cases of severe illness in some of the plants which produce the old type of fluorescent

tubes. Protection in the disposal of such tubes seems to be a matter of dust control by ventilation. However, a newer type of fluorescent coating is free from poisonous components.

Two poisonous materials present in the older fluorescent coating are mercury and beryllium orthosilicate. There seems to be no real hazard from the mercury in breaking such tubes, unless the operation continues for five or six hours.

Comparatively little is known about the beryllium orthosilicate, but Willard Machele has followed one plant since 1943 and has been able to show there has been no case of chronic beryllium poisoning since they have gotten their exposures consistently below 100 gamma of beryllium per cubic meter, although they did have cases when the exposure was greater than that. This indicates dust control about the same as that which would be required in the handling of powdered lead or cadmium compounds.

If the broken tube should introduce the powdered coating into a cut on the hand, ulceration is likely to result. Therefore, all possible precautions should be taken to avoid cuts, and all such cuts should be cleansed thoroughly by the doctor.

Many devices have been arranged for safe breakage and disposal of fluorescent tubes. One of the simplest methods is to place burned out tubes in the original carton, strike one end sharply against a hard surface and drive the pin into the end, thereby preventing possible scattering of the dust by the implosion.

Freon Leaks

Question: What is the recommended safe practice for testing for leaks of freon gas in a refrigerating system?

Answer: Use of the Halide torch, the flame of which changes color in the presence of freon gas, is commonly used for testing with this type of system. There is a possibility that the flame might cause decomposition of the freon into poisonous gases that could make the operator ill. However, this would involve a rather large leak.

A simple method of detection often used is to add a dye to the freon gas as it is being charged into the refrigerating system. The dye, of course, will be carried along with the gas throughout the system and will be readily visible wherever a leak occurs.

Another inspection procedure commonly followed in inspecting freon systems is to check all piping, parts, attachments and pressure vessels for signs of oil leaks, since oil is frequently carried through the system with the refrigerant and will make itself evident at any break.

Campaign Follows Up Fire Prevention Week

Twenty-one thousand home fire prevention kits were released recently by The Advertising Council to newspapers and members of the National Fire Protection Associa-

tion, sponsoring body for the home fire prevention campaign.

Designed by Erwin Wasey & Co., Inc., volunteer advertising agency in the home fire prevention campaign, the kits contain six ads ranging from 100 to 1,000 line layouts keynoting the campaign slogan, "Don't Gamble with Fire, the Odds Are Against You." Four drop-in ads bearing the official slogan and symbol of a fiery hand shooting dice are also included in the kit.

Eighteen hundred daily and 3200 weekly papers, and the foreign language, Negro and labor press will receive them. Don Stuart, advertising director of Texas Company, is volunteer coordinator for the campaign.

About Ladders

(From page 27)

breaks or compression failures that seriously impair the strength of the side rails and that may lead to sudden failure with subsequent personal injury. Many accidents have been traced to causes of this kind.

It has been pointed out that the safety code for the correct construction and use of ladders is based on the minimum requirements to afford safety under average conditions of use. Sometimes for heavy industrial uses where extra weight must be carried on ladders, or where there is continuous and extensive handling and hauling, it is desirable to use stronger ladders, such as may be obtained by employing rails of somewhat larger cross section than those recommended for ordinary use. Such so-called heavy-duty ladders provide an extra margin of safety and may be important in reducing ladder accidents where circumstances indicate their need.

Maintenance and Safety

Wood does not deteriorate with age, when protected from adverse exposure and from decay. Hence, wood ladders properly used, cared for, and maintained will have long life and give continued service over many years.

Storage of Ladders. Wood ladders, when not in use, should be stored under shelter and in a place

where there is good ventilation. They should not be stored near radiators, stoves, steam pipes, or other places subjected to excessive heat or to dampness. Further, they should be supported so that the weight of the ladder is distributed, and sag will not occur. For example, if a long ladder is hung from two hooks near the end, considerable sag at the center will take place from the weight of the ladder. If so hung for an extended period the ladder may become permanently sagged. Likewise, ladders carried on vehicles should be adequately supported to avoid sag and fastened to minimize damage in transport.

Maintenance. Ladders should be inspected frequently to determine whether repair is needed, or whether they have become otherwise unserviceable. Good maintenance practice requires that the joints between steps and side rails be kept tight, hardware and fittings are securely attached, and movable parts operate freely. Rope should be replaced when necessary, and metal bearings of locks, wheels, and pulleys should be lubricated. Attempts to repair broken side rails or rungs are to be discouraged. If a side rail is broken, either the ladder should be discarded, or a complete new side rail of proper size and quality should be installed.

Proper Use

Regardless of how strong or how perfect a ladder may be, it may still be a hazard if not properly used. Avoidable ladder accidents are still all too numerous. Some of the important safety practices that should be followed are the following:

Portable ladders should, where possible, be used at such a pitch that the horizontal distance from the top support to the foot of the ladder is one-quarter of the length of the ladder in use. Obviously, the ladder must be on a level footing and be so placed as to prevent slipping, or be lashed, or held in position.

Ladders should not be used in a horizontal position as a platform, runway, or scaffold, nor for any other purpose than that for which they were designed. To illustrate, the common household type step-

ladder should never be used for heavy maintenance work.

For other than short ladders, additional help is needed for safe handling, particularly under unfavorable conditions, such as uneven footing, the presence of ice or snow, or gusts of wind.

Ladders should be faced when ascending or descending, as the safest method of use.

With the exception of special types, ladders are not designed to support more than one person, or to support heavy objects. Carrying heavy objects on a ladder is even more critical when the weight is mostly on one side, so as to be carried largely by one side rail. Failures, with resulting personal injury, have resulted from overloaded and misused ladders.

It is important also to make certain that the feet of the ladder are so placed as to avoid slipping. Special safety feet for ladders may be particularly helpful in avoiding accidents under certain conditions.

Someone has said that a little knowledge is a dangerous thing. With ladders, a lot of knowledge, mixed with care and discretion, means safety. It pays to be careful when personal safety is at stake.

Safety's Supreme Award

(From page 39)

have been placed the largest sized plants.

If the number of plants in the largest size group of an industrial classification is 10 or less, the rates of the eligible plants shall not exceed the best frequency rate and the best severity rate in the group. If the number of plants is greater than 10, but 20 or less, the rates of eligible plants shall not exceed the second best frequency rate and the second best severity rate in the group. Similar criteria apply to classifications having greater numbers of plants in the largest size group.

The evaluation of each plant's record shall be made on the basis of its annual report to the National Safety Council. If a plant reports more than 3,000,000 man-hours in the calendar year for which the award is given, it will

be notified automatically if it has earned the award.

If a plant reports less than 3,000,000 man-hours in the calendar year, it will receive a special report form to be used in summarizing its experience for enough calendar years to bring the total experience to 3,000,000 man-hours. It will be informed of the maximum frequency and severity rates which will qualify it for an award.

A plant whose rates for the 3,000,000 man-hour period are equal to or less than the maximum rates, and which also satisfies the rate requirements previously listed shall be granted the Distinguished Service to Safety Award when it returns the completed form to the Council.

Of the awards presented to date some have been for individual plants while others were for company-wide records. If a company operating more than one plant desires recognition for the company-wide record, it submits data on number of employees, man-hours and number of disabling injuries for all of its operations—separated by class of industry (type of product manufactured or type of non-manufacturing activity). The Statistics and Contests Committee of the Industrial Conference then determines the eligibility of the company for an award on the basis of its record in comparison with standard frequency and severity rates developed by appropriate weighting of the rates for each industry represented in the company's report.

Clean Respirators

(From page 33)

of soap so atomized disinfectant can cover the surfaces effectively.

Parts of respirators used in paint spraying or greasy operations are soaked in a 140-degree solution of water and cleansing agent; then hand-brushed to remove the dirt. Paint spots are taken off with a mild solvent. These parts also are spray-rinsed in the large washer.

After being disinfected, all parts are dried in a cabinet containing a revolving cage. The drying cycle in steam-heated air is about three minutes.

Parts leaving the drier are in-

spected carefully. Any that may be worn or damaged are replaced. Then the respirators are assembled and new filters are installed. They are placed in cellophane bags which are stapled closed. Final step is getting the right number and types of respirators into delivery bags which are sealed, dated and marked for the various departments.

In addition to respirators, the centralized cleaning department also maintains all the steel mill's other respiratory protective equipment, including 119 oxygen-generating breathing apparatus used for emergency and production work. These apparatus are checked, cleaned, sterilized, sealed and dated after every use and at regular 30-day intervals. Some 1,500 employees throughout the mill have been trained in the use of this equipment. The same department has charge of maintaining gas detection instruments.

Success of the respirator cleaning program has led the company to consider expanding the department for regular maintenance of other protective equipment including goggles, faceshields and hard hats.

Through this program, the company has been able to keep its respiratory protective equipment in active service longer, thereby getting full value from the initial investment. What is more, the safety department believes that employee production efficiency has increased due to voluntary use of respirators on dust or fume producing operations.

State Labor Department

(From page 19)

while you are in the plant, but it doesn't take more than a couple of hours after you leave the plant before it is cluttered, dirty, the machine guards removed and the workers slipshod in their attention to the first requirements of safety.

Ninety-nine per cent of the plants in this category are small employers, and since it is estimated that 70 per cent of the accidents occur in small plants, these plants create our greatest challenge. There are small plants with exceptionally safe operations but, by and large,

here is the largest field in which to reduce the sum total of industrial accidents nation-wide.

I hasten to say that not all small plant owners are lacking good safety programs, but I do say that 99 per cent of the violators of our recognized safety rules are small plant owners. The problem, therefore, is "How are we going to reach him?"

The Owner's Problems

To come to any solution, we must first recognize what such a plant owner or manager is up against. First, he is a man who either has inherited the plant or he is an ambitious person who has built his own business and is operating on a shoestring. His office is usually a dust-laden corner partitioned off from the main plant. It contains a desk, possibly a file cabinet and a few hard-bottomed chairs. Sometimes, but not always, he has a bookkeeper-stenographer. His equipment consists of a telephone, a typewriter, a ledger and possibly an old adding machine. The light is an unshaded light bulb dangling from an electric cord. Always, there is the big calendar on the wall.

The owner himself is production manager, purchasing agent, salesman, personnel manager. He is the one who, whenever there is a shortage of help, is a machine tender. There isn't any job in the plant he can't do, and very few that he doesn't do. His hours are long, his worries many, and he has little time or energy to devote toward keeping abreast of developments in the safety field.

Whenever an inspector visits his plant, any conference must be held over a noisy machine where he gives the inspector his ear, but his eyes are watching how the workers are performing and how the goods are coming through. His thinking on safety can be summed up usually by, "We have always done it this way." Or to phrase it another way, "What was good enough for Dad is good enough for me." No amount of inspection is going to be the complete cure in such a case.

I am not sure that anyone has the answer, so I have no temerity in bringing out my suggestion for

what it may be worth. That is that private safety organizations, insurance company inspectors, State safety inspectors, management and labor, should get together and work out a program to build a safety-conscious community; a program which would make every citizen and every worker aware of his responsibilities as well as his personal loss through accidents; aware of the great loss to our nation and our States whenever there is an accident of any description.

And I say *any* accident, because in approving accident agreements, it is startling indeed to find how many disabling injuries are caused by improper care in the first instance of apparently minor accidents — the number of scratches and cuts that are infected, the number of sprains that are aggravated and the number of bruises that have developed into serious impairments because of lack of proper first aid treatment. It is a tragic waste.

Only by re-training all citizens can this sort of development be prevented. Re-training will mean that no longer is a man respected for his he-man disregard of pain and no longer will he be considered sissy if he bandages with a clean bandage a scratch or blister.

This re-training should start in the schools and definitely should be a program in the homes. This, therefore, means that the private safety organizations have an important place in the picture.

The insurance inspector not only can do a real service by demanding proper safety habits and guards, but he can do more than anyone else in selling the economic advisability of good safety programs. The insurance inspector is the one who can cite plants whose premiums have been reduced because of improved experience. He is the one who can talk dollars and cents as related to safety.

Trade Associations

Trade associations should broaden their fields. Some have fine accident prevention programs but many concentrate entirely on legislation and information. They can reach many who have deaf ears for any other agency — gov-

ernmental or private. These associations speak the language, know their patter. If they only would be aggressive in the accident prevention field, great progress could be made.

Your State Labor Department can supplement the private safety agency's, the insurance company's and the trade association's programs through a conscientious inspection service and an impartial administration of the safety laws and regulations.

The four agencies at the present time are working singly in their fields. There should be a pattern worked out for complete cooperation between them. It would save time, effort and man-power that now frequently is wasted by duplication and non-coordinated effort.

As I see it, there are many places that are over-educated and over-inspected. Worse than that, the education that the agencies may give sometimes is contradictory. There are other areas where an inspector is not seen from one year's end to the other.

Perhaps I should amplify the statement that the education was sometimes contradictory. In our own State, we frequently have a plant manager say to us that the insurance inspector was in the plant the previous week, and he did not insist that a certain machine be guarded or that the elevator be repaired. The mere fact that the insurance company still insures the plant makes him feel that our demands for safeguards or repairs are made to bedevil him.

By the same token, I imagine that the insurance company representatives could frequently duplicate our experience because doubtless they have the plant managers say to them that the State inspector was in, and did not demand this, that or the other. Naturally, if that is the case, the insurance inspector, being in a highly competitive field, is apt to be a little less assiduous in his recommendations.

If the insurance companies would bring to the Department any information that the plant manager was trying to duck out of his responsibilities by placing the onus on the State inspector, I

am sure that a system very quickly could be developed so that we would not be working at cross-purposes.

Another advance could be made in States where there is no industrial safety code, but only a general responsibility for providing safe working conditions vested in the Department. If in those States the insurance companies could agree that they would adhere as far as possible to the American Standards Association's or other recognized codes, cut-throat competition would be kept out and safety would be served.

The Legislative Field

Finally, another place for cooperation is in the legislative field. To cite a specific example: in our State, an elevator bill had been introduced periodically for years. Five years ago, a serious accident resulted in permanent impairment of 14 workers. Even after that, efforts to get an elevator bill through the legislature were to no avail. This happened before my tenure of office so I cannot tell from first-hand experience why the measure failed. But from the information I have, it was because only a handful of crusaders supported the measure. The legislature, however, was very strongly opposed to such legislation.

Upon my appointment to the position of Labor Commissioner, I realized that something must be done. We did, therefore, call in for separate conferences, management, labor and insurance company representatives. All of them evinced an interest in such legislation.

The insurance company representatives got down to cases and discussed a proposed piece of legislation paragraph by paragraph. We actually wrote the bill during an all-day conference and then a committee from this group did the final polishing of the bill. This was done well in advance of the convening of the legislature.

When the bill was introduced, members of industry, the insurance companies and organized labor, as well as our Department, supported it wholeheartedly. It went through without a hitch and we are now in the throes of inspecting and licensing elevators in the State.

When the Departments, private agencies and those closely in touch with the problems, work shoulder to shoulder, we can confidently expect an improvement in our safety jurisdiction. Partnership in this field is an absolute essential for success.

There is one problem that is ever with a State labor department, or other State safety commissions. Between the local building inspectors, inspectors from State commissions and agencies, and the Federal Government, the poor plant owner is so harassed by governmental inspections that he lumps them all into a package and says, "A plague on all your houses!" The result is that most States lack sufficient backing to do an adequate and acceptable job.

Management's Alternatives

If management would but realize that today, the alternative is

not *whether* but *what* governmental agency can set standards, I think they would be enthusiastic in their support of having the work done at the State level. Furthermore, they would follow through by seeing that those who carried on the operations were competent, constructive and helpful.

I use the word "partnership" to convey the fact that we are keenly anxious to help industry; that we are ever alert to the fact that our economy is based on sound and expanding business. We could defeat our purpose if we focus on perfection and insist on such high standards that only the rare plant could meet our demands. In other words, we believe in working out the problems while recognizing the economic facts of life. We are making progress in our aim to reduce accidents.

We are aware that we are between Scylla and Charybdis, the risk of accident on one hand and the risk of starvation on the other. If plants go out of business because of excessive demands of government, the workers in that plant may not be able to find other work before great hardship is suffered. Our law places the responsibility on us not only for plant safety but for the health of the workers. We try to keep a balance between the two. Certainly by placing sole emphasis on safety we could create conditions which might cause plants to close, and malnutrition might conceivably result.

While our responsibility is limited to industrial health and safety, we are also vitally interested in the larger problem of highway, home and school safety. Evidence of the close cooperation that we have with the State Police and the various private organizations in our State is that this year, when we held our 23rd Annual State Safety Conference, conducted by the State Department of Labor and Industry and a committee from industry, there were included sessions on highway safety and home safety.

In this educational program, we

are greatly indebted to the Bureau of Labor Standards, which is most helpful, particularly in the safety inspectors' training courses; and to the National Safety Council. We commend them for the service that they offer and hope that they can expand it even further, so that all Labor Commissioners will do a better job in the safety field.

Of all agencies dedicated to an ideal, the National Safety Council is the one which works consistently, conscientiously and single-mindedly for the attainment of it. It truly epitomizes the highest Christian ideal of being their brother's keeper.

Basis for Building Codes

(From page 25)

Here again, the Bureau cooperates by providing essential data and by entering into discussions through which decisions are made.

Other organizations, such as conferences of building officials and fire underwriters, engage in extensive discussion and arrive at recommendations based on available facts. The product of this work forms the basis for recommended provisions which set forth such specific requirements as what loads and forces should be assumed, and what fire resistance is necessary.

The National Bureau of Standards has been called upon continuously throughout most of its fifty years of existence to participate in developing building code requirements. Some of the laboratory investigations, such as the cooperative work on fire resistant types of structural columns beginning in 1915, the performance of stuccoed panels in 1916, the investigation of plumbing systems in 1922, the series of burn-out tests of various occupancies in 1923, the research on elevator buffers and safeties in 1925, and tests of prefabricated panels in 1938, form

part of the classic literature of building code development. More recent work, particularly in regard to concrete reinforcement and plumbing, is expected to have a marked influence on code revision.

In other phases of activity essential to sound requirements — production of quality specifications, fundamental standards, and suggested code provision — the Bureau has also made a substantial contribution. As previously stated, members of its staff have participated for many years in the work of such organizations as the ASTM and FSB, providing much of the technical evidence on which decisions are based and adding their own specialized knowledge to the pool of information available to representative committees.

Milestones in Development

In 1921, a more direct and intensive contribution to sound building codes was provided when the Department of Commerce Building Code Committee was organized. A committee of the United States Senate engaged in studying construction problems following World War I made a report which was severely critical of the lack of uniformity and lack of scientific basis in building code requirements.

As a result of this report, Herbert Hoover, then Secretary of Commerce, appointed a committee of seven distinguished architects and engineers to develop recommended provisions suitable for general adoption. For its staff and much of its factual data the committee depended on the National Bureau of Standards, which conducted fundamental research for the purpose of resolving a number of doubtful questions.

In a series of reports which had great influence on the codes of the day, recommendations were issued covering most of the major features in building codes. The project was part of a general program

to reduce waste in industry and the recommended requirements paved the way for many economies in construction through reductions in some requirements formerly considered essential.

In 1935, a somewhat different approach was adopted, by which recommended requirements for

Fire resistance ratings of wall and partition constructions are determined in a panel furnace. Gas flames produce a fire of controlled intensity on the exposed side of specimen and performance is measured by ability to carry load or by temperature rise on outer surface.

building code standards are developed according to the procedure of the American Standards Association. Through this arrangement in which the Bureau participates, a large number of professional societies, fire protection organizations, conferences of building officials, and associations of material manufacturers cooperate in the production of generally acceptable requirements. As might be expected, this method of approach has taken considerable time because of the necessity of reconciling many controversial questions, but it has resulted in a number of standards that have been incorporated into local codes.

Today, there are a number of sources from which a State or municipality can obtain information when preparing or revising its code. In addition to the standards produced under American Standards Association procedure, there are several complete recommended building codes offered as suitable for general adoption. These include the National Building Code of the National Board of Fire Underwriters, the Uniform Building Code of the Pacific Coast Building Officials Conference, the Southern Standard Building Code of the Southern Building Code Congress, and the Basic Code of the Building Officials Conference of America. Each code is the product of intensive study of the results of research and testing and of experience with actual buildings.

Toward Unification

Realizing that it would be in the public interest to reduce as far as possible differences in recommended codes, the sponsors have made arrangements to discuss them informally and explore the possibilities of agreement. A committee bearing the title "Joint Committee on Unification of Building Codes" has been engaged for the past year in this program and substantial progress has already

been made. Such progress has been particularly good in the case of definitions, which have been considered of special importance because so many controversies result from differences of interpretation.

The Joint Committee has obtained assistance from the Bureau in the systematic comparison of requirements advocated by the several code-writing bodies. Thus far, reports have been prepared not only on definitions, but on types of construction, classification of occupancies, loads, and exits. Studies are proceeding on the heights and undivided areas permitted in each code for various types of construction.

The work has had several beneficial effects. It has brought together for the first time a number of responsible agencies that had been issuing recommendations based on the same data but differing considerably in technical content. The work of the Committee has demonstrated that informal, voluntary adjustments of views regarding the significance of scientific data produce results of much value to the public.

Need for Research

Modern technical problems in code improvement hinge on development of methods for testing not hitherto available, more precise determination of loads and forces affecting buildings, more general application of performance standards designed to apply irrespective of the materials used, and simplification of the somewhat complicated approach that has developed in writing code requirements. In each case, the Bureau has made substantial contributions as a result of its long experience with the subjects involved and its extensive resources in physics, chemistry, engineering, and mathematics.

An example of how work in the laboratory can pave the way for useful methods of testing is to be found in the program initiated at the Bureau some years ago on prefabricated panels for use in house construction. This was done at the request of the housing agencies of the Federal Government, which needed definite information on the

characteristics of prefabricated construction. There were no standard test methods in existence at the time; consequently, it was necessary to devise methods most likely to produce the essential information. A procedure that involved compressive, transverse, racking, concentrated-load, and impact tests was agreed upon and followed in the testing of a large number of specimens.

Subsequently, a committee of the ASTM was formed for the purpose of producing methods of testing building materials, and the methods followed at the Bureau were accepted as the basis for its recommendations, which are now a tentative standard of the ASTM. Thus a good start was made on uniform treatment for the testing of prefabricated constructions. More needs to be done, for the methods are not well suited to some constructions nor to determining the strength of connections.

Another question of suitable test procedure relates to combustible interior finishes that have come into wide use because of acoustical or insulating characteristics. In reports of recent fires, the rate at which flame spreads over such materials has frequently been emphasized. Some years ago, a method for testing acoustical materials was developed at the Bureau and was embodied in a Federal Specification which governs the purchase of such materials by the Federal Government.

Several other methods for testing these general types of products have been evolved in other laboratories, each having some claim to usefulness in determining hazard from flame spread. It has been the contention of the Bureau that agreement should be reached on a single method, so that code-enforcement authorities might judge the merits of products submitted for approval without the uncertainty resulting from numerous test methods.

Much attention is being given at present to the so-called tunnel test, in which the material forms the under surface of the roof of a long tunnel, through which the rate of fire spread is observed under controlled conditions. Such

tunnels have been tried out at the Bureau and at the Underwriters' Laboratories. The committee on standard fire testing of the ASTM recently expressed itself as favoring the tunnel test developed by the Underwriters' Laboratories. Further study and comparison of results of the several tests will be necessary, however, before general agreement is reached.

Performance Counts

Reduced to its essentials, the chief problem in the development of codes is to require just enough strength, fire resistance, and other qualities to assure reasonable safety without adding unnecessarily to construction cost.

With an increasing body of facts gained through laboratory research and testing, and through experience, it has been possible to reduce the part which opinion plays in the production of code requirements. Another and equally significant trend has been toward the performance basis which emphasizes the objectives to be attained rather than the detailed methods for attaining them.

Building codes have developed gradually through the use of such technical information as was available and have been used not only by architects and engineers, but also by a large number of local authorities and builders without scientific training. The most convenient and effective way of wording them to be sure that the requirements were understood and followed, was in terms of familiar materials and measurements. For many parts of codes, this form of treatment is still used, but in some respects, and particularly in dealing with new materials and methods, the wording of requirements in terms of expected results has become so important that it deserves further explanation. Its most successful application has been in requirements for fire resistance.

Formerly, fire-resistance requirements for walls, columns, and other structural members were stated in terms of so much thickness of a specified material, used either as a protective covering or to be embodied in the member

itself. Thus, the code might require that a steel column be covered with four inches of concrete or six inches of structural clay tile. This was simple and direct, but it was unscientific in that it failed to relate the protection to the hazard that a fire might produce.

Today, revision of an earlier code will almost invariably call for a fire-resistance rating in terms of a definite number of hours, for instance, two. This rating indicates that under a standard fire test the member will perform satisfactorily for a period of two hours. Such a system is logical and, with present methods of testing and knowledge of fire hazards, can be applied with the assurance that it will be effective.

Besides participating in the preparation of the standard fire test itself, the Bureau has made a large number of tests of constructions of materials and thicknesses, so that the fund of information indicating what can be used to meet a given condition has been greatly enlarged. A major contribution has been the determination of probable fire hazards in different kinds of occupancies — an essential link in deciding exactly what will provide the requisite degree of fire resistance.

At the Bureau a series of actual fires was conducted in a special building, with the building contents carefully selected and distributed to simulate actual occupancies, such as office, storage rooms, and dwellings. In these tests, the destructive effect of fire was measured in terms which could be directly related to the resistance offered by structural members. This made it possible to perfect the system by which sufficient protection is supplied to meet the prospective hazard.

A unique full-scale burn-out test was also conducted by the Bureau in 1928. Two buildings in downtown Washington, one five stories and one two stories in height, previously scheduled for demolition, were loaded with combustibles equivalent to those ordinarily present in an office or mercantile occupancy. The contents were then set on fire and careful readings were taken of temperatures reached at various points within

structures. Data thus obtained provided much useful information on temperatures under actual fire conditions and of the persistence of high temperatures in debris blanketed by fallen masonry walls.

Currently, in addition to the general assistance the Bureau is rendering in coordinating recommended requirements, it is endeavoring to bring about agreement on two specific features of building codes. A standard for masonry, produced under its sponsorship some three years ago, is being reviewed in the light of new information on the characteristics of materials. A standard on design loads for buildings is also being revised in which use is being made of recent studies by the Public Building Service on floor loads and by the Weather Bureau on wind velocities and snow loads recorded in different parts of the country. It is through such constant study of new data and the refinement of previous recommended requirements that progress is being maintained.

The picture presented by building codes today is far different from that of a score of years ago, because of improvements that have been made in specifications, methods of testing, applications of engineering principles, and in methods of presentation. Nevertheless, there is general agreement that much remains to be done. Some requirements represent the best that could be developed at the moment but do not necessarily reflect up-to-date thinking in an industry that is constantly advancing. Some methods of testing are altogether lacking or are inadequate to deal with the whole range of characteristics that are important from the standpoint of safety. Other weaknesses are apparent that can be corrected only by use of a scientific approach in place of compromise and approximation.

Further research in this field can do a great deal to correct inequities in treatment of materials and to indicate economies possible through reduction of excessive requirements, as well as to carry out the fundamental objective of establishing what is necessary in the interest of public safety.

Accident Costs

Estimating Accident Costs in Industrial Plants, prepared by Rollin H. Simonds, Ph.D., under the direction of the Council's Statistical Division, is now available as Safe Practices Pamphlet No. 111. The research which formed the basis of this report was jointly sponsored by the American Society of Safety Engineers and the National Safety Council.

The pamphlet defines industrial accidents for cost analysis, discusses elements of uninsured costs, presents a method of computing costs, and gives an example of cost estimate. Included is an appendix with instructions for use of the form "Investigator's Cost Data Sheet."

Member prices: 1 to 9 copies, 40 cents each; 10 to 99, 35 cents each; 100 to 999, 30 cents each; 1,000 to 4,999, 29 cents each.

"Man Lifts"

Revised to conform to the requirements of the American Standard Safety Code for Man Lifts, ASA, A90.1-1949, Data Sheet D-Gen. 2, *Man Lifts*, is now in stock.

Subjects discussed are factor of safety; steps; rails, belts, and pulleys; hand holds; landings; floor openings and shear plates; brakes; safety devices; emergency exit ladders; inspections; and general precautions. Seven diagrams are included.

Member prices: 1 to 9 copies, 15 cents each; 10 to 99, 11 cents each; 100 to 999, 7 cents each; 1,000 to 4,999, 6 cents each.

New Instruction Cards

Two new Safety Instruction Cards for use in training hospital personnel and six prepared for workers in the pulp and paper and logging industries have been added to the set of industrial cards. Designed for handy reference not only by employees but also by supervisors, Safety Instruction Cards provide concise rules on specific operations. The new cards are:

No. H-133—Bed Patients — Moving Helpless Patients
No. H-134—Bed Patients — Helping to Sit Up
No. 667—Logging Wedges
No. 668—Skidding and Bunching Logs with Horses
No. 669—Bow Saws
No. 670—Bucking Logs
No. 671—Power Chain Saws
No. 672—Felling Trees

Member prices: 1 to 9 copies, 5 cents each; 10 to 99, 2-3/10 cents each; 100 to 999, 1-7/10 cents each; 1,000 to 4,999, 1½ cents each. Prices for quantities of 5,000 or more will be sent upon request.

Illustrated Safety Talks

The Illustrated Safety Talk, a new type of visual aid, has recently been developed by the Construction and Cement and Quarry Sections of the National Safety Council. It is 11 inches by 14 inches and is in an easel-type binder.

This volume of 52 safety talks on subjects applicable throughout industry has been designed as a handy source of reference for foremen to use in preparing for short on-the-job talks.

Photographs and drawings for the group to view appear on one side of each page, with a safety talk for the leader to use on the reverse side. Included with the ten pages of illustrations are several blank pages on which can be mounted the company's own photographs. Titles of the first three Illustrated Safety Talks are:

IST No. 1—Why Accident Prevention in the Construction Industry?
IST No. 2—Shovels, Cranes and Draglines
IST No. 3—Personal Protective Equipment

The demand for this type of material is indicated by the fact that over 7,000 copies of the volume entitled "Safety Talks for Construction and Maintenance Foremen" were sold during its first year. The Construction and Cement and Quarry Sections, therefore, felt that if the safety talk was converted into a visual aid, the message could be conveyed more easily to the men on the job.

The Illustrated Safety Talk arms the foreman, the keyman in the safety program, with an effective tool with which to do an outstanding job of selling safety to his men.

Although these talks are designed primarily for foremen, they will also prove useful to safety engineers and safety directors and to key personnel at all levels. If the first three talks are favorably received, others will be produced in the future.

Member prices: 1 to 9 copies, $5.00 each; 10 to 99, $4.70 each; 100 or more, $4.50 each.

Foremanship Series Revised

The popular series of 12 pamphlets, *Safety in Foremanship*, has recently been revised to include new material and up-to-date information. The series is designed as a ready-made course for teaching the principles of accident prevention to foremen. An instructor's outline which suggests ways to present the material and a series

—To page 102

SAFETY POSTERS

from
NATIONAL SAFETY COUNCIL

IMPORTANT

All posters displayed on these pages, except the jumbo poster, will be available through 1951, and may be secured as a part of N.S.C. membership service, or by purchase.

Posters numbered 9000 and up are new posters. Others are among the 744 posters shown in the 1951 Poster Directory.

Write to Membership Dept. of N.S.C. for further information.

NATIONAL SAFETY COUNCIL

8840-A 8½x11½

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Electrotypes or poster miniatures on this page are not available, nor can payroll inserts be supplied.

(Posters below are printed in two or more colors)
(Available only in sizes indicated)

NATIONAL SAFETY COUNCIL

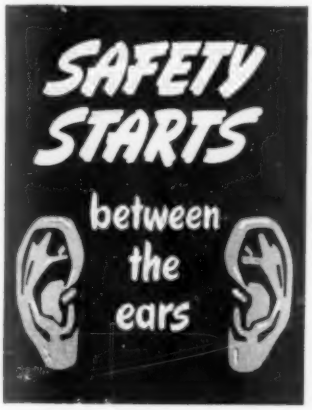
9175-C **25x38**

JUMBO POSTER FOR JANUARY 1951

Jumbo posters 9' 11" by 11' 8" in size, designed for outdoor use, are issued monthly. They are available to members for $42.50 annual subscription.

NATIONAL SAFETY COUNCIL

9130-B **17x23**



NATIONAL SAFETY COUNCIL

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8870-B **17x23**

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9158-A **8½x11½**

NATIONAL SAFETY COUNCIL

9071-B **17x23**

NATIONAL SAFETY COUNCIL

9154-A **8½x11½**

See box on page 98 for information about these and other National Safety Council posters.

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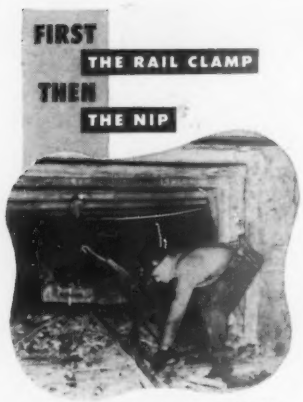
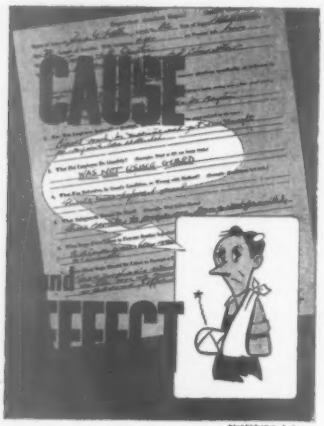


NATIONAL SAFETY COUNCIL

9162-A 8½x11½



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8139-A 8½x11½

NATIONAL SAFETY COUNCIL

9164-A 8½x11½

NATIONAL SAFETY COUNCIL

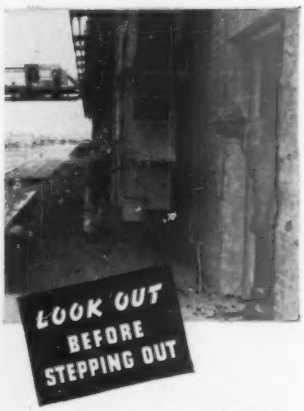
8138-A 8½x11½

NATIONAL SAFETY COUNCIL

7976-A 8½x11½

NATIONAL SAFETY COUNCIL

8993-A 8½x11½



NATIONAL SAFETY COUNCIL

9142-A 8½x11½

NATIONAL SAFETY COUNCIL

9111-B 17x23

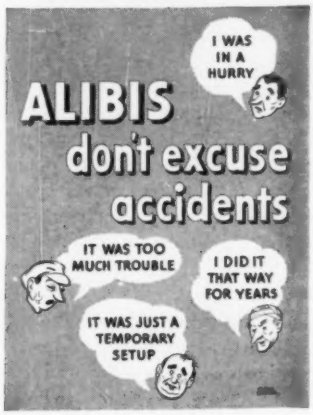
NATIONAL SAFETY COUNCIL

8287-A 8½x11½

See box on page 98 for information about these and other National Safety Council posters.

(Posters below are printed in two or more colors)
(Available only in sizes indicated)

8417-A 8½x11½



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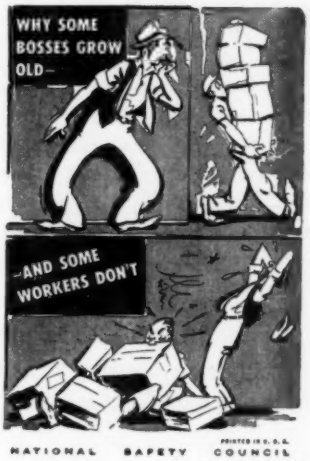
8828-B 17x23

8603-B 17x23

8837-A 8½x11½



8439-B 17x23

8878-A 8½x11½

V-9171-B 17x23

V-9170-A 8½x11½

See box on page 98 for information about these and other National Safety Council posters.

Tools for Your Safety Program

(From page 97)

of questions and answers for each booklet are provided with the set.

The pamphlets deal with the following subjects: the foreman and the industrial accident prevention problem, the relationship between production and safety, the foreman's stake in accident prevention, accident costs, safeguards, the importance of training the new worker in safe methods, following through, the meaning of accident statistics, industrial housekeeping, detecting and correcting unsafe conditions, what to do after an accident, prevention and control of fire in the department.

Member prices: 1 to 9 sets, $1.70 each; 10 to 99, $1.50 each; 100 to 999, $1.30 each; 1,000 to 4,999, $1.25 each.

"Message for Woods Bosses"

How to prevent accidents in saw log and pulpwood logging and how to handle men successfully are the subjects of a new booklet, *Message for Woods Bosses*. Illustrated with sketches of typical woods scenes, this pocket-sized booklet (3½ inches by 6 inches) contains the advice of the Old-Timer, who learned the hard way.

Available in either English or French, the booklet was prepared by the Council in cooperation with the American Pulpwood Association, the U. S. Forest Service, and the Quebec Pulp and Paper Safety Association.

The Old-Timer summarizes the four fundamental steps in the prevention of woods accidents in these rules:

1. Plan your work.
2. Start men right.
3. Instruct workers.
4. Supervise carefully.

Member prices: English edition, 1 to 9 copies, 10 cents each; 10 to 99, 9 cents each; 100 to 999, 8 cents each; 1,000 or more, 7¼ cents each; French edition, 1 to 9 copies, 15 cents each; 10 to 99, 14 cents each; 100 to 999, 13 cents each; 1,000 or more, 12 cents each.

Pulp and Paper Studies

Safety directors and supervisors in the pulp and paper industry will be interested in three new Engineering Studies which deal with these specific problems: Engineering Study Pulp and Paper

No. 4, *Skid Carrier Chain Breakage;* No. 5, *Shipping Felt Rolls in Railroad Cars;* No. 6, *Hauling Pulpwood with Horses.*

No. 4 and No. 5 summarize replies received to questionnaires sent to companies in the industry which are members of the National Safety Council. No. 6 was prepared by two members of the Pulp and Paper Section. Both No. 4 and No. 6 are illustrated.

Member prices: No. 4 (8 pages), 1 to 9 copies, 25 cents each; 10 to 99, 21 cents each; 100 to 999, 16 cents each; 1,000 to 4,999, 12 cents each; Nos. 5 and 6 (4 pages each), 1 to 9 copies, 15 cents each; 10 to 99, 11 cents each; 100 to 999, 7 cents each; 1,000 to 4,999, 6 cents each.

Green Cross News

(From page 56)

is that there is a definite problem of drugs as a factor in accidents. We have, in many instances, come to think of many drugs as being either innocuous or restricted as to availability. Actually, in these days of free samples, over- and under-the-counter sales, illicit traffic and pilfering, the limitations in availability imposed by ethics and the law are probably somewhat less than those resulting from a lack of need or drive. Such potent drugs as the barbiturates, chloral hydrate, marihuana, paraldehyde, morphine, amphetamine, cocaine, the bromides and many, many others are too frequently available to those who need them and have the price. We should now recognize this fact and the potential hazards involved in the indiscriminate use of drugs."

Erie Plant Visits

The first of a series of plant visits by safety representatives of industrial firms belonging to the Erie (Pa.) Safety Council, was held October 26 at the Erie Works, General Electric Company. Forty industrial safety men attended a luncheon given by G.E., after which the visitors were divided into small groups and toured the huge plant. The Inter-Plant Visitation committee is headed by David Ohler of the Continental Rubber Works. Harry A. Weber, G.E. safety director and chairman of the Council's Industrial Division, presided at a brief business session, at which a talk was made

by Stanley Sullivan of the Personnel Department of G.E.

Safety Engineer's Diary

(From page 37)

for money or promotion or increased support—and I don't think that's good long-run strategy, and it isn't the way I play my working life.

Obviously, Jim Mason couldn't be consulted. His judgment is good and I think he believes in me and the worth of our work, but since my departure would mean his promotion to my job, it would be putting an unfair strain on his objectivity.

Mac would be a possibility, but I have some reservations there. He is responsible for my being at Jackson-Barnes. He has such an intimate staff relationship with Roscoe that I hate to ask him to keep a point like this confidential. And, when all is said and done, Mac is a personnel and industrial relations man, not a safety man.

So, eventually, I went to Doc Moller, head of our research lab and more than anyone else my father confessor. Doc heard me out and then laughed at me.

"Before, ven you come for advice, I gif it gladly. Not now, not this time. Ven I vas a little boy, maybe only forty—it is hard to remember I vas efer forty—somebody vanted me to take a job in a bright, shiny new laboratory doing something very vonderful with a nice budget. I vould haf picked up the vork of a great man who had just died und with just a little more vork — maybe fife years—und I haf a great advance of science to my credit. I know, because the man who they asked after me did, und he is not brighter than me—not as bright. He is now a name efen the newspapers know und has a chair at a great university — und me, I plough here a little bit of metallurgical ground nobody cares much about—but the name people of tomorrow, they vill for years read a little paper of mine so they can pass examinations while they are still schoolboys. Here I could vork from the start, not just polish up a greater man's vork. Here, because others weren't in-

terested, I could make my little mark on what man knows about the vorld.

"So I stayed, and that is not advice, because maybe I am a big *dumkopf*. But also maybe not. My picture, it vouldn't look very pretty in the newspapers."

By early this week, I had reached the stage of outlining the arguments pro and con on paper and trying to strike a balance. They came out something like this:

Pro League: A slight financial advantage; an opportunity to turn in a top-flight safety record; greater concentration on the directly technical and engineering side of the job; prestige of being associated with a first rank company instead of a good Class B one; reasonable certainty of moderate advancement.

Pro Jackson-Barnes: A greater potential of safety improvement, based on a greater spread between present performance and a theoretical best possible record; a long-shot chance of advancement to a higher position in the organization than is likely at League; a chance to continue to build something solidly from the start and carry it through—in contradistinction to my past record of shifting jobs on an average of once every four years; a sense of identification with the welfare of the people I've come to know in my three years here; a few real friendships I'm reluctant to bring to an end.

Monday night I orated the pro-League position to Sue and she smiled sweetly.

Tuesday I was convinced I ought to stay, and the smile was just as sweet.

By Wednesday night, I was ready to toss the whole thing aside, so we called in some of our rowdier friends, played cards, drank a lot of beer and forgot the problem.

Thursday I went over a new project that Jim Mason developed on warehouse stock handling. It was a swell plan. I couldn't punch a hole in it. He had the details pat and tight, the plans laid, the procedures thought out and checked with the people who do the work.

So, for about the fourth time, I arrived at an answer. Obviously, Jim was ready to step into my shoes. Actually, my staying would have a disadvantage I hadn't considered before—it would block his advancement to a job he's fully qualified to handle. It tipped the scales, definitely, but that night at home I didn't talk about it to Sue. Once during the evening she said, "You look like you've made up your mind." I nodded. She waited for me to go on. I didn't. I mention it only as proof that I married a remarkable woman when I report that she didn't throw things.

So, this morning, when Jim brought me the report for the stock project, to be presented at the executive committee meeting, I said, "It's your baby. You present it." He looked at me in surprise. "Why not you?" he asked.

I shook my head. "It's time you took a hand in this part of the problem. Go in and sell it to the brass."

That meeting was pretty rough. Roscoe was abstracted, disinter-

ested. Probably the sales report from eastern Arizona showed a 10 per cent drop, or something like that. At any rate, he didn't react with his usual polite pleasure at any idea his subordinates present. And, sensing this a couple of the superintendents who don't love me too much jumped all over Jim, challenging his facts, questioning the proposal on petty details.

And, inevitably, Jim blew up. He's such a good guy, such a direct, forthright, solidly-grounded guy, that he couldn't be expected to do anything else. He told them flat that they were making petty issues to defeat a good idea. The fat was really in the fire then, and before the row subsided, Roscoe was pounding the desk, saying, "Gentlemen, no personalities, please!"

And the whole thing was tabled indefinitely.

After the meeting, I spent an hour persuading Jim not to resign.

And then I drafted the letter to Lucas, declining his offer. It wasn't an easy letter to write, because I like Lucas, and because I couldn't state my real reasons for declining. It simmers down to one of those stilted, hammy sentences like "because my present position seems to offer a greater opportunity for service, etc., etc."

Later

Sue finished reading the letter, put it down, and said, "I think you mean it this time. You sound so unhappy about it that I think you really mean it."

And she went and got us each a long, stiff highball. And as we finished our drinks she said:

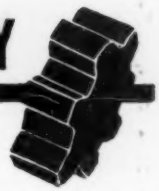
"I wonder, though, whether the test was fair to Jim. You let him present the project—but you were still there, still the boss, still the teacher watching his pupil recite. He had to try to act like he thinks you would act, and that's phony to him because he isn't you.

"Maybe if you had quit before he made the presentation, he'd have put it over, by acting like himself."

"Maybe," I said. "Maybe, I don't know how to find out."

She looked at me a long time. Finally, with a wry grin, she said. "Go mail the darned letter." I did.

NEW SAFETY EQUIPMENT FOR INDUSTRY



Manufacturers are invited to send in announcements of new products, or improved special features. Only items which can be considered as "news" to our readers will be published.

Work Glove

A new all-purpose work glove with a wing-type "Dura-Thumb" is announced by Richmond Glove Corp., Richmond, Ind. It is specially designed for heavy materials handling in industrial plants or wherever hand protection is required. A feature of the new glove is the all-leather thumb. A continuous seam on the back of the thumb assures longer life for the glove. It eliminates seams on the front and thus insures more usability at the point of greatest stress, where thumb meets palm. A seamless palm is also incorporated in the glove.

Made of chrome-tanned, side split, pearl grey cowhide with striped herringbone flannel back, the new glove has a water-resistant cuff which may be safely dry cleaned. It has a seamless first finger and reinforced welting around the second and third fingers. A double stitch is used along the back from cuff to first finger for greater strength. The new glove is Gunn cut with seams on back of all fingers. A heavy elastic band is used for form fitting around the wrist. A white canton flannel lining is provided for finger and palm comfort while leather knuckle straps and tips are also offered as additional hand insurance. The glove is available in two types—the Wing-King with 4½ inch gauntlet or the Super B with 2½ inch safety cuff..

Motor Generator Cleaning

A technique that cleans motor generators by simultaneously blowing and vacuuming within the air tight confines of the "Blo-Vac" Cover has eliminated the inefficiencies of old processes in cleaning motor generators. Ruggedly constructed of heavy cotton drill, coated inside and out with oil-resistant Neoprene, and fitted with 15 strategically located two-way zippers, the "Blo-Vac" Cover is patterned to fit all Otis Type Motor Generators from Nos. 1 to 5 inclusive, and similar sizes of other makes.

With the cover draped over the motor generator, zippers are opened only where blower is inserted or where suction bell intake on end of vacuum hose fits into cover, and blowing and vacuuming simultaneously proceeds to clean out dust from interior of motor generator and collect it in vacuum tank. What actually happens inside the cover during this operation is that the vacuum power unit of the Lehara

Elevator Shaft and Machine Room Cleaning Kit pulls an air stream of 210 cubic feet per minute from the open zipper where blower is inserted, and dust blown loose by the blower is caught up in this and is carried into tank of power unit instead of blowing around the machine room. The cover, supplementary vacuum and blower tools, and specially designed vacuum tools that clean every part of elevator shaft and machine room can now be secured from the Lehara Sales Corp., 485 Fifth Ave., New York 17, N. Y.

Fan Ventilator

Especially suitable for situations where powered duct exhaust ventilators operating at very low noise levels are desirable, a new Swartwout product is announced, carrying the trade name "Airlift." The power unit features a centrifugal type fan with backwardly curved blades, mounted within a weather-proof chamber. Streamlined fan bottom is said to increase efficiency while reducing turbulence to a

minimum and permitting slower operating speeds. Welded steel framework provides sturdy support for the unit which fits over curb built to extend duct rising from building roof. Further information may be obtained from the Swartwout Co., 18511 Euclid Ave., Cleveland, Ohio.

Lamp Guard

A new combination safety guard and guide which prevents fluorescent lamps from falling is announced by Koehler-Bird Associates, 2 Bradley St., Boston-45-Somerville, Mass. This new device, called Edision Lamp Guide, is made of tough plastic. To install, the lamp is removed and a lok-gyde is slipped on each fluorescent socket. A one-way brass clip permanently locks the guard in place and it becomes part of the fixture. In relamping, the device guides the lamp terminal pins into the sockets, then locks the lamp in place.

Lift Truck

Market Forge Co., Everett, Mass., announces improvements on the Marforge Load-Mobile, making easier accessibility to electrical equipment and auxiliary equipment such as the lifting ram and the hydraulic pump used for lifting.

A "high-low" switch is now provided for easier maneuverability in close quarters. When the button is at "low," the truck moves at slow speed regardless of the position of the operating pedal. When the button is at "high" the operator controls the speed, either high or low, by means of the foot pedal. Spring-mounted casters have been added to increase stability. These casters normally clear the floor but when the truck tilts the heavy springs right it promptly. This new feature allows the truck to pass over obstructions, inclines, etc., without difficulty.

Freer use of sealed ball bearings in the control system means that just a light touch on the foot pedal is all that's needed to put it in required position. A heavy roller chain operates the brake instead of an enclosed cable. The hydraulic lifting mechanism is arranged in a vertical position at the front end of the hood where it is less likely to be damaged in transit over rough floors. The Load-Mobile with these new improvements is available as a lift truck for conventional skid platforms; as a pallet truck for handling double-faced pallets; as a freight and pick-up truck; and as a tractor.

Rolling Platforms

A new item for overhead work constructed of Safe-Weight aluminum ladders

NEW SAFETY EQUIPMENT FOR INDUSTRY

Further information on these new products and equipment may be obtained by writing direct to the manufacturer. It will help in identifying the product to mention this announcement.

and scaffolding equipment has been announced by Louisville Metal Products, Inc., 1101 W. Oak St., Louisville, Ky. These rolling scaffolds are simple to erect—four pins provide locking of planking with the ladder rungs, and angle braces are fastened with a total of four nuts. Units store compactly.

Available in two standard widths, 12 inches and 20 inches. Lengths up to 24 feet in the wider width with maximum height of 20 feet. Units can be ordered in sizes for specific problems. Extra wide units quoted on request and hand rails can be installed where desired. Ladders are fitted with 4 inch free rolling casters with locking device.

Gas Indicator

A combustible gas indicator designed specifically for use by the oil industry on leaded gasoline has been produced by the Davis Emergency Equipment Co., Inc., 45 Halleck St., Newark, N. J. Known as the "Davis Vapotester Model M-1, Type L," it cannot be "poisoned" by tetra ethyl lead, and is approved for use on "leaded stock" by Underwriters' Laboratories and Factory Mutual Laboratories.

The indicator operates on the principle of the Wheatstone bridge. Two legs are identical interchangeable filaments. The analyzing filament is exposed to the gas or vapor sample, and the reference filament is sealed in air. The other two legs are fixed resistors whose resistance is increased by the gas or vapor burning on the analyzing filament. This causes a flow of current through the meter. The indicator is suited for determining the gas-free condition of tanks and other enclosed vessels commonly used in the oil industry. The indicator registers accurately the relatively light concentrations of vapors present after the tank has been steamed and ventilated, and is unaffected by the tetra ethyl lead vapor. The indicator gives a quick index to the vapor concentration and thus serves as a safety gauge in handling leaded stock.

Mine Locomotive Headlamps

Increased production and greater safety in mines are benefits claimed for two new mine locomotive headlight lamps announced by General Electric's Lamp Department, Nela Park, Cleveland, Ohio. The new lamps have greater beam candlepower, longer life, more concentrated beam, and more rugged construction. The first lamps to be designed by the company specifically for mine locomotive headlights, they are 150-watt, PAR-46 (face 5¾ inches in diameter) bulbs, one of which operates on 32 volts and the other on 115 volts.

The 32-volt lamp has exceptionally high performance characteristics It produces a beam of 100,000 candlepower, approximately three times that of a sealed beam automobile headlamp. The beam spread is 12 degrees both vertically and horizontally so concentrated as to be effective in mine haulage ways, which average only six feet in height and 12 feet in width. The

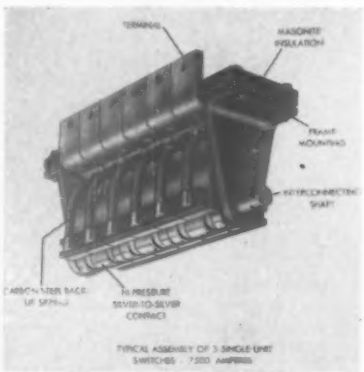
lamp's life rating is 800 hours, and its sturdy filament construction makes it especially suitable for rough service.

The 115-volt lamp is intended for use in mine locomotive headlights equipped with resistors for only this voltage. Its beam of 17,000 candlepower has a vertical spread of 16 degrees and horizontal spread of 33 degrees. Its rated life is 1000 hours. This lamp features a mount of shock- and vibration-resistant construction.

Short Circuiting Switch

Railway and Industrial Engineering Co., Greensburg, Pa., announces the new TTC short circuiting switch, a switch that is suited in electrolytic processes throughout the chemical and allied industries.

The switch is designed to be mounted in conjunction with an individual electrolytic cell in a processing series, and remains open when the cell is in operation. When closed, the switch shunts out the cell, allowing repairs, inspections, etc., to be made to the individual cell without disturbing the entire process.

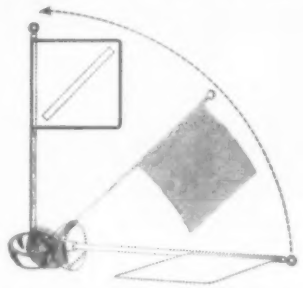


The switch is rated in single units at 2500 amperes, but multiple units can be arranged for increased ampere requirements. All contact surfaces are silver-faced; high carbon back-up springs assure positive contact; switch base is insulated with Masonite.

The switch assembly can also be supplied with an enclosed auxiliary switch connected to the operating shaft for control and signalling purposes.

Danger Flag Standard

Industrial Products Co., 2850 N. Fourth St., Philadelphia 33, Pa., announces a new flag standard suitable for use in all types of industry where a portable danger signal is desired. The unit is known as the Ipco Wind-pruf flag standard and consists of specially designed, 7 inch diameter cast iron base, 13 inch x 13 inch red canvas flag mounted on 32 inch staff, non-rusting eye and ferrule at top of staff.



Base may be used in position shown or inverted. Flag is held spread by means of a spring steel stay inserted diagonally in a canvas pocket. Eye at top of unit is used when making up barriers on streets, around manholes, for industrial repairs, etc.

Unit is easy to set up or take down. Flag and staff separate from the base.

Extinguisher Service System

Organization of a nation-wide system of service depots has been completed by Pyrene Manufacturing Co., 560 Belmont Ave., Newark, N. J., makers of fire-fighting equipment.

One hundred and eighty of these depots have been set up in key cities throughout the country to serve fire extinguisher owners. The services offered include immediate exchanges, replacement parts, repairs and trade-ins.

Certain extinguishers that can be repaired may be turned in for immediate replacement by the service depot with factory rebuilt extinguishers. Common replacement parts for various types and sizes of soda-acid, foam and cartridge-operated water and anti-freeze types are carried in stock. Seldom does an extinguisher owner have facilities for pressure testing 2½-gallon extinguishers. Such soda-acid, foam and cartridge-operated devices are discharged by internal pressure and when their shells have been dented or damaged they should be returned for examination.

NEW SAFETY EQUIPMENT FOR INDUSTRY

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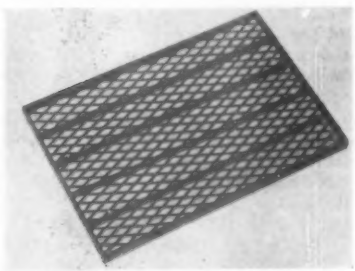
detection of weaknesses and possible repairs. When 2½-gallon extinguishers have been damaged by freezing they cannot be repaired. These as well as old or inoperative vaporizing liquid extinguishers that cannot be repaired have a trade-in value on the purchase of new extinguishers.

Each of the new depots will display a blue, black and gold Pyrene authorized distributor decalcomania with a "Service Depot" bar attached. Beneath the service depot marking, the insignia says, "Repairs . . . Parts."

All-Steel Door Mat

The unusual scraping action of the many steel edges of expanded steel gratings is utilized in the new door mat manufactured by Ballymore Co., Wayne, Pa. Dust, dirt and mud are thoroughly removed from shoes by the angular grating edges and drop down into the boxed-in space between grating and floor where it is retained for periodic removal. Dirt will not clog in the grating and being non-absorbent, moisture presents no problem.



The grating is electrically welded to a one inch high cross-braced frame to form a sturdy one piece mat. Over-all dimensions are 16½ x 24 inches, but each side is drilled with two holes so that individual mats may be bolted together to form a multiple unit to cover large areas of various shapes and dimensions. The mat is finished in rust-resisting gray.

Adhesive Tape Remover

Patron Chemical Corp., 8506 Sunset Blvd., Los Angeles, Calif., announces the new formula "Quit," an adhesive tape remover which releases surface tension between skin and tape. No residue is left on the skin, the underside of the tape is slick when removed and the patient gains relief from pain of having tape ripped off tender skin areas.

Quit may be used effectively on single-layer or multi-layer tapings. It is packaged in modern "squeeze" bottles which are almost indestructible. The bottles have a spout which permits drop-by-drop or flow application. The product is sold in 2-ounce, 4-ounce plastic applicators and in half-pint, pint, and quart labeled cans. The applicators are refillable.

Air-Fed Hood

Chicago Eye Shield Co., 2300 Warren Blvd., Chicago, announces a new No. 600 Air-Fed hood which is approved by the U. S. Bureau of Mines under "Class C" respirator for use in toxic dust and fumes.

To eliminate bulk and rigidity, and to provide comfort and full freedom of movement, the hood is made of an extremely light weight, highly flexible, rubberized fabric. It is also completely adjustable. The hood has an extra large, clear plastic window which allows extreme wide angle vision. In addition, its adjustable, plastic headband is mounted to the hood on a

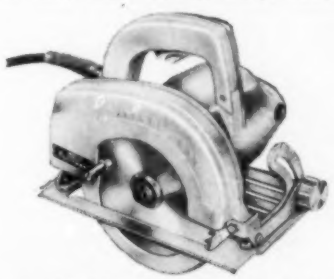
friction swivel to allow full vision up or down as the user moves his head. Air fed into the hood is tubed to each side of the face. Then diffused and filtered through cloth bags so that a constant supply of clean, cool, fresh air is maintained directly in the respiratory zone. Further protection is given by a soft cotton bib which acts as a baffle to keep out dust. It zips out for cleaning.

The fabric of the hood protects the head, shoulders, chest, and back against flying particles. It is also waterproof and acid-resistant. The sponge-rubber mounted plastic window withstands abrasion, and its large area gives it excellent impact resistance. The hood is ideal for lead discing and other grinding operations, light sand blasting, paint spraying, etc. Operating pressure 5 to 9 pounds.

Safety Saw

Stanley Electric Tools, New Britain, Conn., announces the W65 Stanley electric saw—a new lightweight 6-inch saw which combines high speed and dependability on all types of jobs. The new W65 with a Universal type, DC or AC motor, 60 cycles or less, 5600 RPM, features perfect balance in any position. A "Multi-Grip" handle-stippled for sure grip; a momentary contact switch, and an automatic telescoping Safety Guard with manual control are features of this saw. A round arbor allows the use of any standard blade.

The saw bevels at any angle up to 45 degrees to a 1½ inch depth. Cuts up to two inches deep at 90 degrees. Saw housing of die cast polished aluminum, with steel base that will not warp: helical



gears, with full ball and roller bearings throughout. The saw is equipped with a combination rip and cross-cut blade, wrenches, and lubricant, and comes packed in a metal carrying case.

Plastic Goggle

A new one piece, one ounce all plastic safety goggle designed to fit all faces is announced by American Optical Co., Southbridge, Mass.

Made of impact resisting plastic, this goggle is "optically correct." It affords exceptionally wide angle vision and can be worn over most standard types of personal glasses and most prescription spectacles and goggles.

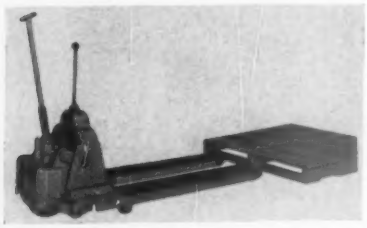
Other features are a comfortable plastic nosepiece, many perforations to minimize fogging and provide adequate ventilation, non-flammable plastic construction, and four point contact with face by means of rolled edges for greater comfort. In addition, the new goggle is supplied in clear (No. 479) or green (No. 480) plastic styles, has an easily adjustable elastic headband to insure snug fit. This goggle is recommended for protection against foreign particles striking from any direction on the following types of work—babbitting, chipping, cutting rivets, grinding, hand-tool operations, machine operations, spike driving and similar operations.

NEW SAFETY EQUIPMENT FOR INDUSTRY

Further information on these new products and equipment may be obtained by writing direct to the manufacturer. It will help in identifying the product to mention this announcement.

Load-Lift

A pallet load-lift designed and built on a new principle is being offered by the Market Forge Co., Everett, Mass. It is made of aluminum alloy and features special wheels that automatically retract when the forks are in a lowered position.

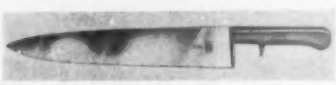


The truck, supported on two front wheels and two auxiliary wheels on a very short wheel base, turns around "on a dime." It cannot be cornered and will lift wherever a man can stand. The rear wheels are one inch above the floor and thereby enter and leave the pallet without interference or damage to the bottom boards. Operating the lifting handle automatically brings rear load wheels down to the floor and raises auxiliary wheels.

The rear wheels are closely centered and tandem articulated and easily cross over floor obstructions, elevator inequalities, etc. There is no connection between the pulling and lifting handle.

Trigger Grip Knife

Lamson & Goodnow Manufacturing Co., Shelburne Falls, Mass., announce a new line of trigger grip safety knives for the meat industry. The new, trigger grip feature permits a firmer, more perfectly balanced hold and prevents the hand from slipping down to the blade. More pressure can be exerted without danger of acci-



dent. Solid aluminum handles, permanently cast onto a full tang blade of chrome tool steel, make handle and blade inseparable.

The cutlery may be sterilized in boiling water without warping or loosening the handle. Foreign matter cannot be absorbed between blade and handle and there are no joints or seams.

Punch Press

The new Press-Rite No. 1½-15 ton open back inclinable press has just been placed on the market by the Sales Service Machine Tool Co., 2363 University Ave., St. Paul, Minn. This single stroke press has a Press-Rite sliding key clutch with a 4 point engagement ring and a roller bearing mounted flywheel. The diameter of the crankshaft at the bearing is 2½ inches and at the pin 2⅜ inches.

The press has Vee ways on its ram with triple lubrication. Standard stroke is 2

inches but longer strokes up to 3 inches are available if required. The flywheel is 20¼ inches in diameter, weighs 190 pounds and reaches a speed of 160 rpm with a ¾ hp, 1140 rpm motor. The bolster area is 10 x 14⅜ inches. The distance from bolster to slide is 6¾ inches. It has a 5½ inch throat depth. The press occupies a 23 by 26 inch floor space and weighs (less motor) 1100 pounds.

Safety Air Gun

Guardair Co., 45 Seymour St., Stratford, Conn., has developed a new air gun operating upon a new patented principle, which provides automatically a protective shield or umbrella of high pressure air in

completely surrounding relation to the cleaning air jet. The protective shield operates simultaneously with the air jet. Flying chips and other particles impelled by the air jet will not penetrate beyond the air shield, and therefore are prevented from causing injury. The air shield effectually traps spattering cutting oil, eliminating this nuisance to the worker.

Barrel Tilter

The new GS safety tilter with pouring spout provides a safe, fast and convenient method of draining acids and other liquids from stainless steel barrels. The cradle and supporting base are made of structural steel. All members are riveted or welded to insure a strong, durable unit. The locking device permits tilter to be held at any angle for pouring so that the whole operation can be done by one man. The

new safety air vent pouring spout insures an even flow of liquid without spurts or splashes. This is made of acid resistant rubber and plastic tubing for long wear.

Flow capacity is 5 gallons per minute. The long handle operates the tilter easily and permits the operator to remain at a safe distance from the liquid. The tilter can be safely left in a position just above the flow of the liquid so that it is not necessary to return tilter each time all the way to a pouring position. Further information may be obtained from the General Scientific Equipment Co., 2700 W. Huntingdon St., Philadelphia.

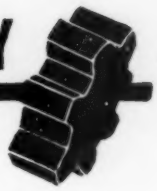
Coated Canvas Glove

Production of three new lines of Stanzoil industrial coated canvas gloves has been announced by The Pioneer Rubber Co., Willard, Ohio. The red neoprene coated

is the extra-duty safety line and the black neoprene coated the heavy-duty and super-duty lines. All gloves coated with duPont neoprene.

The black Stanzoils are made with a

NEW SAFETY EQUIPMENT FOR INDUSTRY



Manufacturers are invited to send in announcements of new products, or improved special features. Only items which can be considered as "news" to our readers will be published.

non-slip grip said to hold wet things as if dry. Inserted thumb design moves seam out of wear area, and the preflex palm design helps prevent wear from bunching. Fingers are curved to provide hand comfort and efficiency. Glove linings are of 8-ounce canton flannel throughout. Made in all knit wrist and gauntlet styles.

Extra- and super-duty Stanzoil lines also have non-slip grip, inserted thumb, preflex palm design, and are 8-ounce canton flannel. Extra-duty gloves are red as a warning signal of hand danger. Hot and cold models for protection in extreme temperatures are included in this line. Super-duty gloves are neoprene impregnated for extreme abrasion resistance.

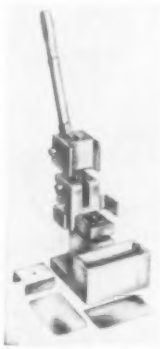
Nylon Safety Straps

R. H. Buhrke Co., 4701 W. Grand Ave., Chicago, specialists in the manufacture of safety belts and safety harnesses, have just announced the Buhrke Nylon safety straps, created to give maximum strength combined with flexibility and light weight. They are produced of all nylon fabric, with the breaking strength of the full cross section area better than 3,000 pounds. These Nylon safety straps are six ply, 1¾ inches wide.

Abrasion machine tests went well over 70,000 strokes, each stroke seven inches long over a one-inch square mandrel with a ten-pound sack weight suspended, without showing evidence of wear. The manufacturer states it is considered safe to use this safety strap until two layers have worn completely through. Therefore, the two center plies are red to act as a warning signal. Another test was made by placing the strap in 28° below zero temperatures for two successive nights and it still maintained its same flexibility.

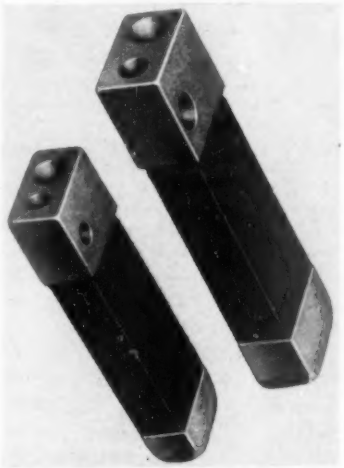
New Cunningham Products

A new line of safety steel rivet sets has been announced by M. E. Cunningham Co., 200 East Carson St., Pittsburgh 19, Pa. Made from the company's special



Mecco safety steel to prevent spalling, mushrooming, and injury to personnel, these sets will be stocked in five standard sizes for ⅛-inch to 9/32-inch rivets. Two shank designs are available: the patented Cunningham wedge grip design, providing knurled grip; and the standard straight shank design. The sets will give more service even on the most difficult production jobs.

This company also announces a new device for bending metal tags used in the identification of heats in merchant bar



mills. This new Model TO-1X tag bender bends the tags so they may be fit over a hammer with a nail in position for driving into the billet. With this bender a nail first is placed in position, then a 1" square tag with heat identification numbers, finally a 3½" x 2" metal tag. When the handle is depressed the nail is forced through both tags, and the larger tag is formed to fit over the nose of the tagging hammer. The ends of the large tag fit into special clips on the hammer which hold it in position while the hammer is swung. This identification system is used on the first and last billet of each heat as it enters the preparation furnace.

Foot Treatment Mat

Foam-X Co., 332 W. Alamar Ave., Santa Barbara, Calif., has developed a new shower room foot treatment which incorporates a plastic reservoir that holds almost one gallon of Foam-X solution which is automatically fed into the sponge rubber mat only as the solution is used up. Solution remains at same level in mat, eliminating over-filling, splash and waste.

This new mat and reservoir was designed to dispense Foam-X solution, a non-toxic astringent fungicide for counteracting foot infections. According to the manufacturer, this product is an effective fungicide which also toughens the skin and steps up resistance to athlete's foot.

Silicone Lens Tissue

The Silicone Paper Company of America, Inc., 230 Park Ave., New York, N. Y., with the help of General Electric Company (Silicones Division) has developed a new type silicone treated lens tissue, called "Magic Lens Tissue."

This special tissue, made from a Fourdrinier sheet manufactured of special quality, carefully selected pulp refined in beaters and jordan to give softness, strength, uniformity of texture and freedom from lint, is impregnated with silicone. Thus adequate strength and highest cleaning and polishing properties for glass surfaces are combined in a handy sheet of tissue.

Magic Lens Tissue comes in a convenient wall dispenser. It is interfolded like paper towels or toilet tissue, and self feeding. The size of the sheets is more than ample for any glasses or goggles.

Bi-colored Lenses

American Optical Co., Southbridge, Mass., announces new bi-colored fused lenses designed to protect the eyes of workers engaged in heat treating and furnace operations, scarfing and burning operations, some op s and blast furnace operations, n ocesses and welding.

In comparison with the older two-piece bi-colored lenses, the new fused lenses can be replaced more easily and quickly in goggle frames. Instead of fitting two half-lenses, the single lenses can be fitted in a

NEW SAFETY EQUIPMENT FOR INDUSTRY

Further information on these new products and equipment may be obtained by writing direct to the manufacturer. It will help in identifying the product to mention this announcement.

fraction of the time. The fusing process at the same time eliminates the possibility of light streaks being present.

Because the lenses are fused into a strong solid piece, uniform thickness is assured, and there are no rough edges. Of AO Super Armorplate quality, the new one-piece lenses are stronger than the previous two-piece lenses. These lenses are beveled to fit spectacle goggles or cup-type goggles and are made in regular and 6-curve, round and FV3 shapes. The following glass combinations are available: Cobalt-Clear; Noviweld-Clear; Calobar-Clear; and Noviweld-Calobar in one-half and one-half combinations.

News Items

Franz T. Stone, president, Columbus-McKinnon Chain Corp. whose main offices are at Tonawanda, N. Y., announced that the company is purchasing the plant, equipment and inventory of The Dixon Chain Manufacturing Co., Inc., Dixon, Ill. and expects to be operating the Dixon plant soon. With this acquisition the company will have plants at Dixon, Ill., Tonawanda, North Tonawanda and Angola, N. Y., as well as subsidiary companies in St. Catharines, Ontario, and Johannesburg, South Africa.

* * *

B. W. Powers, formerly a field service representative in Indianapolis for the Maintenance Products Department of The Diversey Corp., Chicago, has been named district manager for the Chicago area, with supervision over all Maintenance Products Department sales representatives working out of the Central Division. Mr. Powers joined Diversey a little over a year ago.

* * *

For the fourth consecutive generation, a son has followed his father to the presidency in this 110 year old firm, the R. E. Dietz Co., Syracuse, N. Y., manufacturers of kerosene lanterns and motor lamps. Robert E. Dietz was made chairman of the board and his son, Gerry J. Dietz, was promoted to presidency of the company.

Paychecks Carry Safety Reminders

Paychecks as a medium for safety reminders are being used by an increasing number of companies. Expansion of this method is being promoted by the Todd Company, of Rochester, N. Y., which manufactures payroll checks and systems. The company is urging clients to take advantage of the educational opportunities offered by the paycheck stubs.

"The paycheck is one piece of literature which everyone reads," say the check designers. They also point out that the check often goes into the home, which many companies feel is a receptive area for safety ideas.

Frequency and directness of contact are other advantages claimed for paychecks. For a firm of only 100 employees, weekly checks used for safety reminders over a year's time represent 5200 employee contacts.

One company that recently adopted this plan is the Wood-Mosaic Company, of Louisville, Ky. Although J. R. Meekin, personnel director, was using a comprehensive program of safety education, he welcomed another medium for getting the idea across. The 50 slogans which the company is using on its checks were selected from the National Safety Council's booklet, "Safety Bell Ringers." With 330 employees, the firm will change the slogan on the checks every 1000 checks, or every three weeks.

Some companies use this medium to stress the difference between gross pay as actually disbursed by the company and "take home" pay, pointing out that many deductions, such as U. S. Savings Bonds, insurance, pension contributions, and the like, are actually savings.

Other companies which have adopted the "management message" safety reminder programs are the Longview Fibre Company, Longview, Wash.; the Shirks Motor Express Corporation, Lancaster, Pa.; and the Sprang Manufacturing Corporation, Schiller Park, Ill. In the latter two cases, the check is used in part for information on gross vs. net pay, but safety messages are also included.

New Standards for Industrial Ovens

Fire and explosion safeguards for industrial ovens are presented by the National Fire Protection Association in the Standard, on Class A Ovens and Furnaces just off the press (NFPA No. 86). These standards apply to ovens where explosive vapors may be produced from painted materials being dried or baked in the ovens, impregnated materials, coated fabrics and the like, and also where there is an explosion hazard from the fuel used.

The standards stress the importance of ventilation to prevent the development of explosive atmospheres and specify control equipment to assure adequate ventilation. In developing these provisions the committee took advantage of recent research which shows that the explosive limits of certain solvent vapors are lower at oven temperatures than at ordinary room temperatures and that a greater amount of ventilation is needed than had previously been recognized.

Box or batch ovens, continuous conveyor type ovens handling different classes of work, direct and indirect heating equipment of various types, a wide variety of control equipment, and detailed information on the flammable properties of solvents and methods for calculating the needed safety ventilation are included.

TRADE PUBLICATIONS
in the Safety Field

These trade publications will help you to keep up-to-the-minute on new products and developments in industrial health and safety equipment. They are free and will be sent by manufacturers without obligation to readers of NATIONAL SAFETY NEWS who are responsible for this work. Send in the coupon below checked for the publications you desire. Please make your requests promptly.

1. **"Chain and Attachments"**: A forty page illustrated catalog of all types of chain and chain attachments. Chain finishes and chain metals as well as tensile strengths are listed. Also table of standard wire gauges and comparative sizes of wire. American Chain & Cable Co.

2. **"Trouble Savers"**: Catalog "M" on adjustable steel scaffolding illustrates and describes adjustable steel trestles, ladder jacks, roofing hoists and brackets, shinglers brackets, ladder hooks, scaffold hooks and mortar board stands. Steel Scaffolding Co., Inc.

3. **Industrial Emblems & Awards:** Illustrated catalog of industrial emblems and awards includes: solid bronze statuary, memorial tablets, safety plaques, trophies, emblems, and miscellaneous awards. Williams Jewelry & Manufacturing Co.

4. **Willson Catalog:** New catalog contains complete information and selector tables on eye and respiratory safety equipment. Fully illustrated with specifications on all products. Accessory equipment such as air analysis equipment included. Willson Products, Inc.

5. **Air Foam Equipment:** New brochure on air foam or mechanical foam for fire fighting. Describes air foam, methods of application, high and low expansion types of foam compound, specifications and operating characteristics for five sizes of portable playpipes, mobile and stationary foam proportioning tanks and installations of the auto induction, pressure line inductor, self-contained and motor fire apparatus types. Pyrene Mfg. Co.

6. **Fork Lift Truck:** Illustrated brochure introduces two new "no-shift" trucks, one model is a "stand up" type, the other is a "sit-down." Operational advantages and a specifications chart are included. Mobilift Corp.

7. **Non-Destructive Testing:** Bulletin on general purpose Magnaflux Unit for maintenance safety and general inspection. Two models, one stationary and one portable, are described. Designed to provide inexpensive equipment for automotive and aircraft overhaul work, and production inspection of small parts and tools. Uses black light for fluorescent indications of cracks, laps, etc. Magnaflux Corp.

8. **Fire Protection:** Illustrated bulletin on dry chemical piped systems recommended for such fire hazards as: paint dip tanks and spray booths, ovens, driers, transformer vaults, printing presses, kitchen equipment, oil storage tanks, flammable liquid storage rooms, and others. Operating features included. Ansul Chemical Co.

9. **Guards for Edged Hand Tools:** Illustrated brochure describes fibre and leather guards for such sharp edged tools as saws, knives, chisels, ice picks, axes and wire brushes. R. H. Buhrke Co.

10. **Waco Catalog:** New tubular scaffolding catalog shows assembly parts and diagrams of typical assemblies. Also load test chart and safety rules. Wilson-Albrecht Co.

11. **Guide to Easier Cleaning:** A 31-page illustrated booklet discusses cleaning maintenance with emphasis on recommended machinery for different jobs. Describes solutions of cleaning problems in schools, theatres, hotels, office buildings and stores. The Spencer Turbine Co.

12. **Safety Head Control:** The text and photographs of this pamphlet describe the operation of a safety head control for refrigeration compressors, a new device for refrigeration failure control. Safety Head Control Co.

13. **Aluminum Rolling Scaffolds:** New illustrated bulletin containing pictures of scaffolds in use and specifications. Complete descriptions of the prefabricated construction and uses of this type of scaffolding are given. Also availability of individual parts. Patent Scaffolding Co.

14. **Tubular Type Dust Filters:** Descriptive Bulletin 24-D covers the entire subject of tubular type cloth dust filters, both the single compartment and the automatic continuous multi-compartment units as used by various types of industry. Diagrams show construction. Tables of capacities and sizes of knockdown and assembled filters are included. Accessories described. Ruemelin Mfg. Co.

15. **"How to Care for Your Floors"**: Booklet describes tested methods of getting the best results when finishing rubber, asphalt, wood, cork, linoleum, concrete and terazzo floors. Tells how to finish gymnasium floors with each step illustrated with "How-to-do-it" pictures. Also a section on "How to Cure Sick Floors." Maintenance products and machinery described. S. C. Johnson & Son, Inc.

16. **"15 Types of Fire Protection"**: An illustrated booklet describing fifteen types of sprinkler systems for fire protection. Types included are wet and dry pipe systems, water curtain, water fog, "Foam," and fog "Foam" systems. Pictures of installations and equipment in action. Accessories for fixed and portable equipment are fully described. Rockwood Sprinkler Co.

17. **Eye and Head Protection:** Illustrated catalog of protective eye and head equipment. Includes welders, chippers, and grinders safety goggles, and all around protective spectacles. Also seamless and fabricated welding helmets and hand shields. Modern Glass Processing Corp.

18. **Materials Handling Equipment:** Catalog containing basic specifications of entire line of materials handling equipment. Fork lift trucks, gas powered and electric, industrial towing tractors, truck tractors for handling bulk materials, and complete line of special attachments for particular needs are included. Clark Equipment Co.

NATIONAL SAFETY NEWS DECEMBER, 1950

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Cesco's New #600 AIR-FED HOOD.
Approved by U.S. BUREAU OF MINES *under "Class C" Respirator for use where toxic dust and fumes are encountered. Operating pressure 5 to 9 pounds.*

Picture of a Free Man!

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Cesco's New #600 AIR-FED HOOD

FREE ***from weighty, rigid hoods!***
CESCO's #600 AIR-FED HOOD is made of an extremely lightweight, highly flexible rubberized fabric. This, plus its complete adjustability, provides unequalled comfort and full freedom of movement.

FREE ***from hoods with narrow, fixed vision!***
CESCO's #600 has an extra-large, clear plastic window for extreme, wide angle vision. In addition, its adjustable plastic headband is mounted to the hood on a friction swivel to allow full vision up or down as the user moves his head.

FREE ***from toxic dusts!***
Air fed into the #600 HOOD is tubed around to each side of the face. Here it is diffused and filtered thru cloth bags so that a constant supply of clean, cool, fresh air is maintained directly in the respiratory zone. Further protection is given by a soft cotton bib which acts as a baffle to keep out dust. It zips out for cleaning.

FREE ***from harmful abrasive particles!*** • #600's lightweight, but tough, fabric protects the head, shoulders, chest and back against flying particles. It is also waterproof and acid-resistant. The sponge-rubber mounted, plastic window withstands abrasion, and its large area gives it excellent impact resistance.

FREE ***from fatiguing, noisy air inlets!*** • #600's carefully thought-out design and construction brings the incoming air into the hood almost noiselessly.

FREE ***to work better, faster, more safely!*** • The exclusive advantages of CESCO's new #600 AIR-FED HOOD are bound to increase worker comfort, safety, and output. It is ideal for lead discing and other grinding operations, light sandblasting, paint spraying, etc. Write for more detailed information or see your Cesco Distributor.

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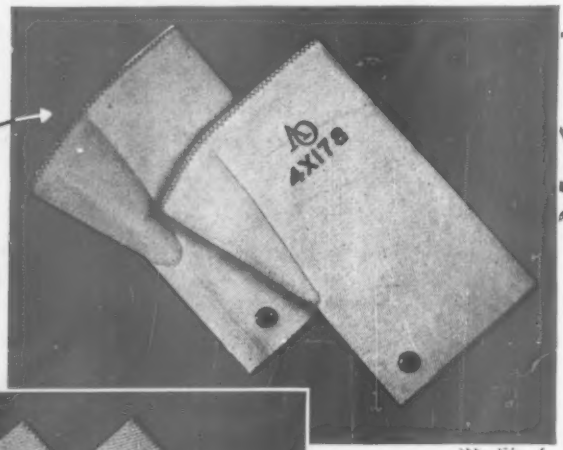
AO's Economical Heavy-Duty Protection Against Oil, Heat, Sparks, Abrasion

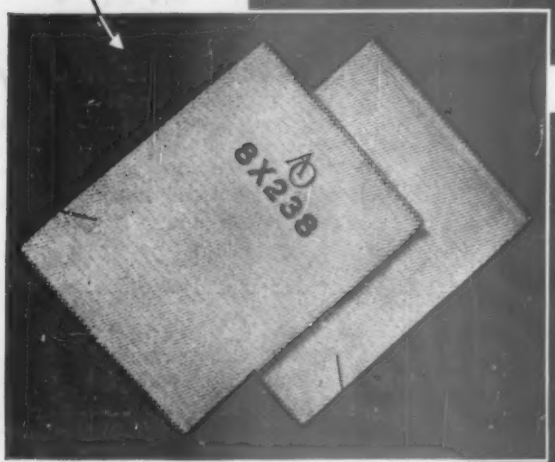
AO DURATE

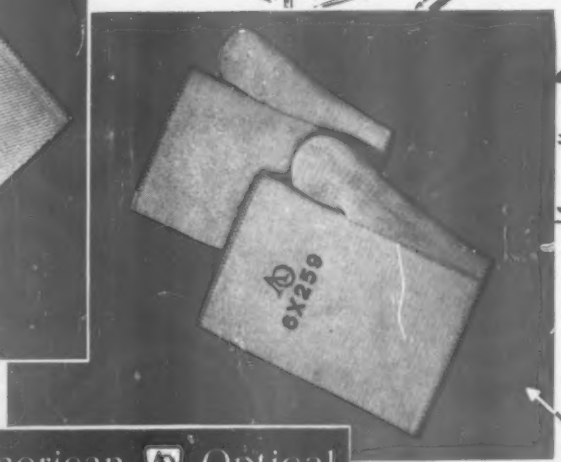
In one thriftily-priced, long-wearing fabric — AO now offers 4-way protection for jobs where handling oily, greasy, abrasive or hot materials is a problem. While heavily woven to provide maximum protection, Duratex is remarkably flexible for working comfort! Your AO Safety Products Representative can supply you with this heavy-duty protection in mittens, hand pads, sleevelets.

NEW! 4X718 SLEEVELET (10½" long — has snap button adjustment at wrist)



NEW! 8X238 REVERSIBLE HAND PAD (7" long)





American Optical COMPANY
SAFETY PRODUCTS DIVISION

NEW! AO 6X259 REVERSIBLE OPEN END MITTEN (8" long) also available as 6X260 (9½" long)

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